

FAIRBANKS MORSE  
**DEFENSE**

**RT  
&D**

*Samtan*

# Electrical Systems Hardware Product Catalog



**Leading Manufacturer of  
Marine Electrical Systems  
Hardware**

[FMDefense.com/electrical-systems-hardware](https://FMDefense.com/electrical-systems-hardware)



# Leading Manufacturer of Marine Electrical Systems Hardware



Research Tool & Die Works (RT&D), acquired by Fairbanks Morse Defense (FMD) in June 2022, is a manufacturing firm with over 70 years experience in electrical-systems hardware design and metal stamping fabrication. Skilled tool and die makers, design engineers, and production personnel, have combined to build a distinguished reputation for quality products and have established RT&D as a leader in developing innovative designs and manufacturing processes. RT&D has obtained over thirty domestic and foreign patents on products and tooling techniques.

Located in Carson, California, our state of the art manufacturing facility houses some of the most advanced fabrication equipment available.

RT&D utilizes modern computerized design, tool making, and manufacturing equipment, which results in production speeds and precision unequaled by any other means. Since we design many of our own unique production techniques, our facility also includes one of a kind equipment to implement these innovative products.

Stacking the decks with best in class marine technologies and service solutions. Fairbanks Morse Defense has mastered that balance over more than a century, configuring the delivery of every customer engagement to meet the needs of the moment. We deliver an advantage to the U.S. Fleet with a growing array of best-in-class marine technologies, OEM parts, and turnkey services – all from a single, trusted source.

Samtan Engineering Corporation, a manufacturing firm was founded in 1962 and acquired by Fairbanks Morse Defense (FMD) in December 2023.

A customer focused leader in metal stamping, deep drawing, fabrication, and assembly. Our onsite capabilities combined with our 360 degree communication with our extensive network of partners specializing in welding, plating, brazing, powder coating, destructive and non-destructive testing.

Our focus is on exceptional customer service, on-time delivery, and superior quality to continuously exceed our customers' expectations and has been recognized by many industry awards.

# Our Locations



- Service Centers
- Manufacturing Facilities
- International Service Partners

## Fairbanks Morse Defense

701 White Avenue  
Beloit, WI 53511  
Phone: 1-800-356-6955

[www.fairbanksmorsedefense.com](http://www.fairbanksmorsedefense.com)

## American Fan

Phone: 1-866-771-6266

## AMMCON Corporation

Phone: 1-904-863-3196

## Federal Equipment Co.

Phone: 1-877-435-4723

## Hunt Valve Company

Phone: 1-800-321-2757

## Maxim Watermakers

Phone: 1-318-629-2460

## Research Tool & Die Works

Phone: 1-310-639-5722

## Samtan

Phone: 1-781-322-7880

## Ward Leonard

Phone: 1-860-283-5801

## Welin Lambie

Phone: +44 1384-78294

## Modern Facilities

We own and operate our own ultra-modern powder coat facility, and this enhances our ability to control product quality as well as production delivery times. We have developed many specialized coating formulations that provide superior wear characteristics with high corrosive resistance and are now required specifications in the marine industry.

Benefiting from a computerized inventory management system, and over one million dollars of on-hand products, our customers enjoy reduced delivery times not often found in the metal stamping industry. In addition, our network of representatives world wide prides themselves on providing the highest level of service to every customer. Leaders in the shipbuilding industry have come to rely on products manufactured by RT&D. We are proud of the fact that the hardware we produce is providing service to ships around the world every day.



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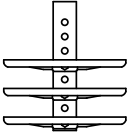
# **MAJOR WIREWAYS**

INVERTED "T" STYLE  
& TRAPEZE STYLE



# MAJOR WIREWAYS

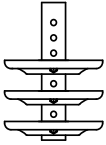
## INVERTED "T" STYLE



### 3MOR CROSSTIER

3MOR-08A - 3MOR-20A ALUMINUM 45.5 LBS/TIER  
 3MOR-08 - 3MOR-20 STEEL 91.0 LBS/TIER  
 3MOR-08S - 3MOR-20S STAINLESS 91.0 LBS/TIER

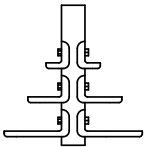
P. 1-3



### 3MAX CROSSTIER

3MAX10A - 3MAX30A ALUMINUM 75.0 LBS/TIER  
 3MAX10 - 3MAX30 STEEL 150.0 LBS/TIER  
 3MAX10S - 3MAX30S STAINLESS 150.0 LBS/TIER

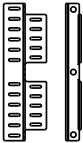
P. 1-4



### RTD CROSSTIER

RA06 - RA10 ALUMINUM 22.5 LBS/SIDE  
 R612 - R1212 STEEL 45.0 LBS/SIDE

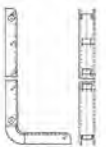
P. 1-6



### OVER/UNDER CROSSTIER

3OUS-06 - 3OUS-20 STEEL  
 3OUS-06A - 3OUS-20A ALUMINUM  
 3OUS-06 - 3OUS-20 STAINLESS STEEL

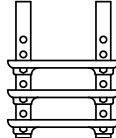
P. 1-7



### BRANDING TYPE

P. 1-15

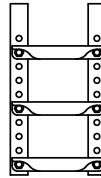
## TRAPEZE STYLE



### 9M CROSSTIER

9M-08A - 9M-20A ALUMINUM 45.5 LBS/TIER  
 9M-08 - 9M-20 STEEL 91.0 LBS/TIER  
 9M-08S - 9M-20S STAINLESS 91.0 LBS/TIER

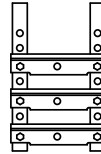
P. 1-9



### 9MAX CROSSTIER

9MAX17A - 9MAX30A ALUMINUM  
 9MAX17 - 9MAX30 STEEL 150.0 LBS/TIER  
 9MAX17S - 9MAX30S STAINLESS 150.0 LBS/TIER

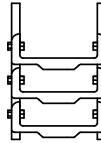
P. 1-10



### 3CT NAVY STANDARD

3CT-06 - 3CT-20 ALUMINUM 45.5 LBS/TIER  
 3CTS-06 - 3CTS-20 STEEL 91.0 LBS/TIER  
 3CTSS-06 - 3CTSS-20 STAINLESS 91.0 LBS/TIER

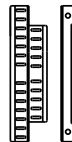
P. 1-11



### 9S CROSSTIER

9A08 - 9A24 ALUMINUM 45.0 LBS/TIER  
 9S08 - 9S24 STEEL 91.0 LBS/TIER  
 9SS08 - 9SS24 STAINLESS 91.0 LBS/TIER

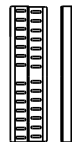
P. 1-12



### OVER/UNDER CROSSTIER HEAVY DUTY

3OUS-17I - 3OUS-30I STEEL 156.0 LBS/TIER

P. 1-13



### OVER/UNDER CROSSTIER WITH TABS

3OUSW-17 - 3OUSW-38 STEEL 120.0 LBS/TIER

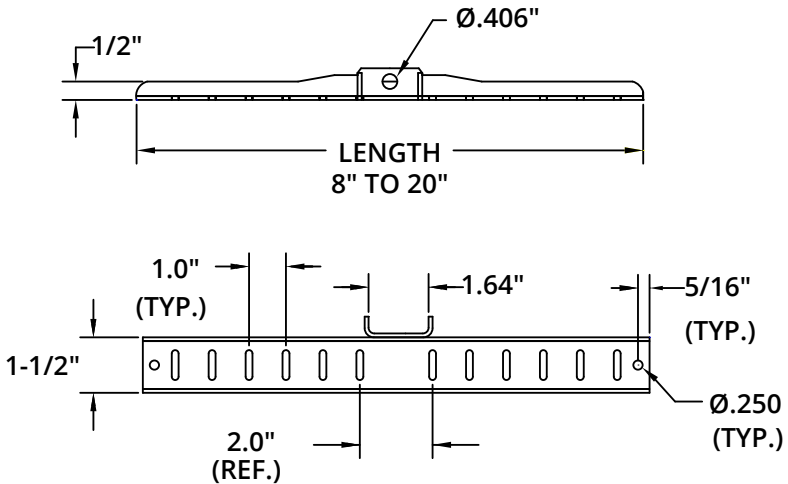
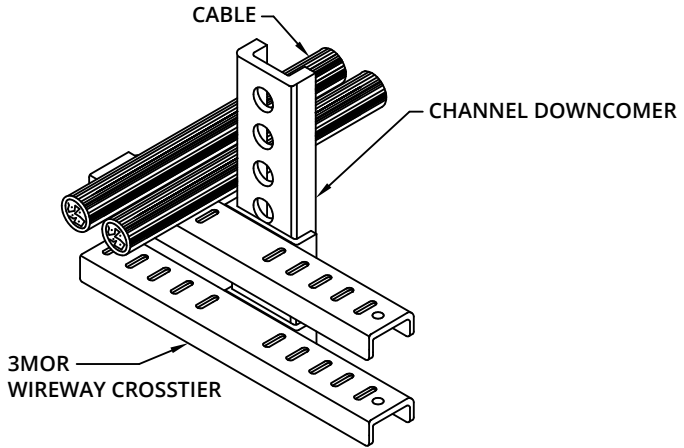
P. 1-14

# **INVERTED "T" STYLE**

## NOTES

# 3MOR CROSSTIER

MILITARY OPTIONAL REPLACEMENT  
INVERTED "T" STYLE



AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"

ALUMINUM

STEEL

STAINLESS

3MOR-06A - 3MOR-20A

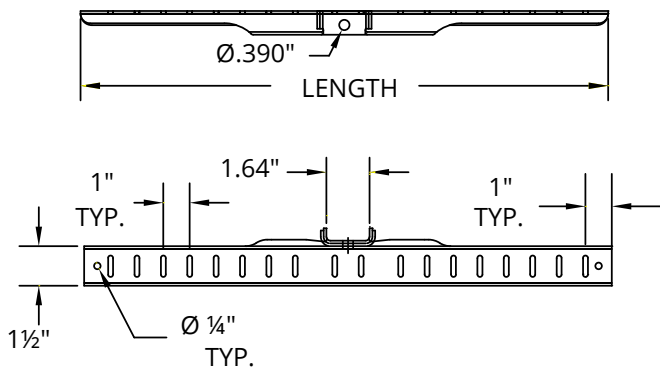
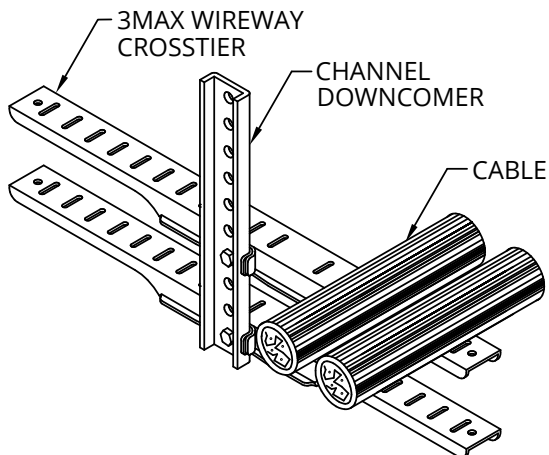
3MOR-06 - 3MOR-20

3MOR-06S - 3MOR-20

# 3MAX CROSSTIER

## MAX LOAD WIREWAY CROSSTIER

DESIGNED TO MEET EXTRA HEAVY LOADS,  
RATED FOR 150 LBS. EACH TIER



AVAILABLE IN 2" INCREMENTS FROM 10" TO 24"

STEEL

3MAX10 - 3MAX24

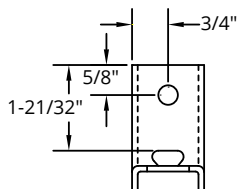
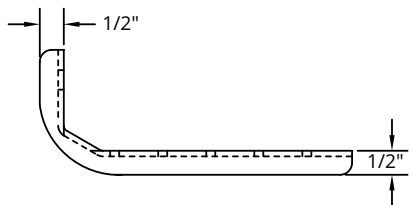
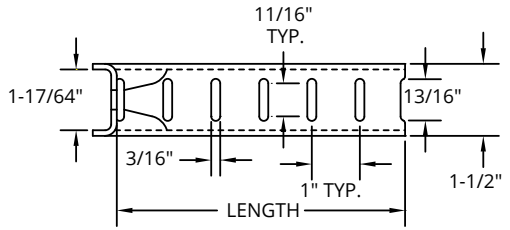
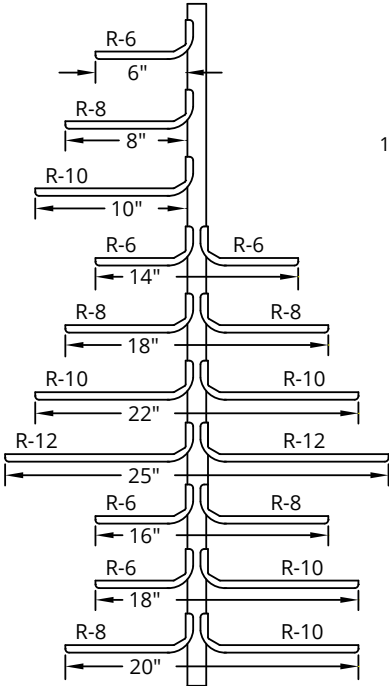
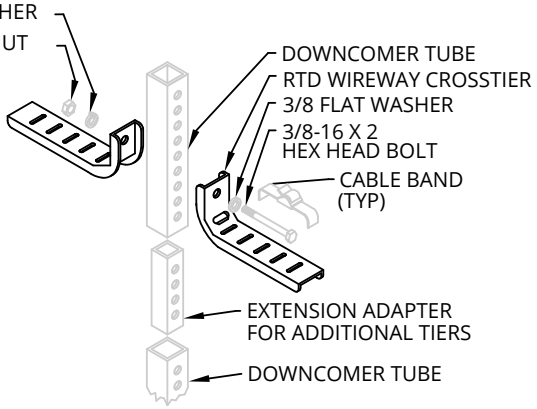




# RTD CROSSTIER

## WIREWAY HANGER

3/8 LOCK WASHER  
3/8-16 HEX NUT



U.S. PAT. #3923277

**ALUMINUM**

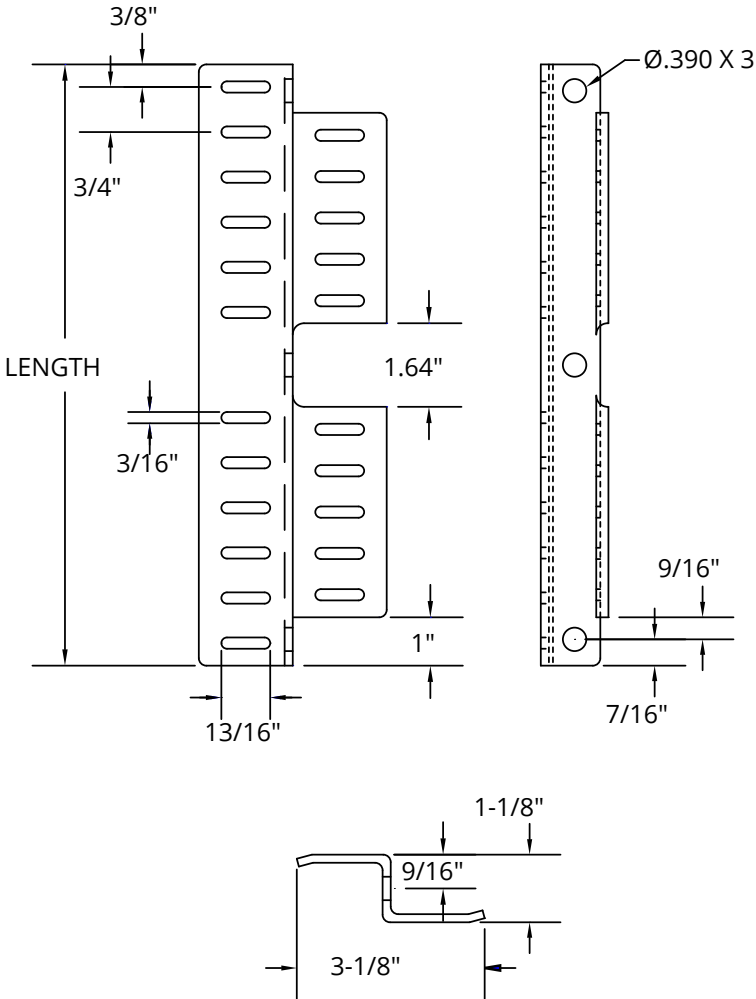
RA06 - RA08 - RA10

**STEEL**

R612 - R812 - R1012 - R1212

# OVER/UNDER CROSSTIER

DESIGNED TO BE USED WITH NAVY STANDARD CHANNEL DOWNCOMERS AND ANGLE DOWNCOMERS



AVAILABLE IN 1" INCREMENTS FROM 6" TO 24"

ALUMINUM

STEEL

STAINLESS

30US-06A - 30US-24A

30US-06 - 30US-24

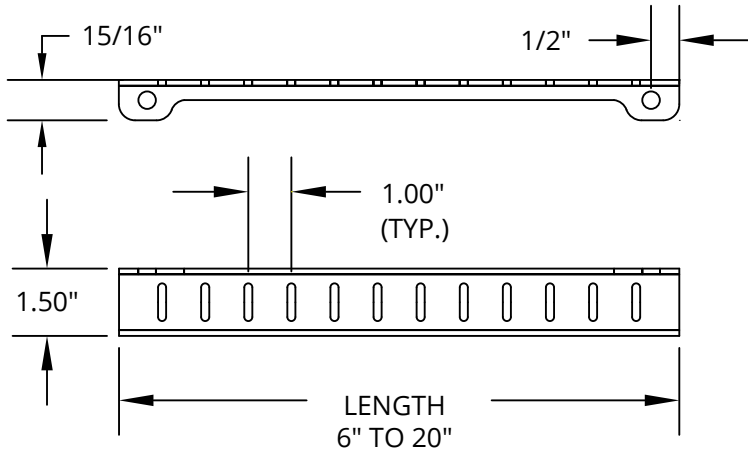
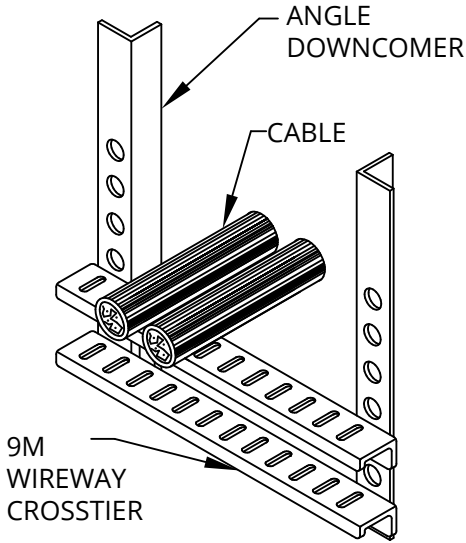
30USS-06 - 30USS-24

# **TRAPEZE STYLE**

## **NOTES**

# 9M CROSSTIER

MILITARY OPTIONAL REPLACEMENT  
TRAPEZE STYLE



AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"

ALUMINUM

STEEL

STAINLESS

9M-06A - 9M-20A

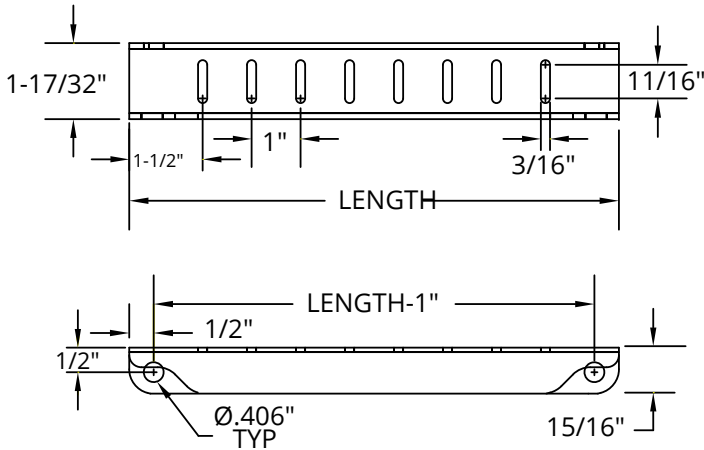
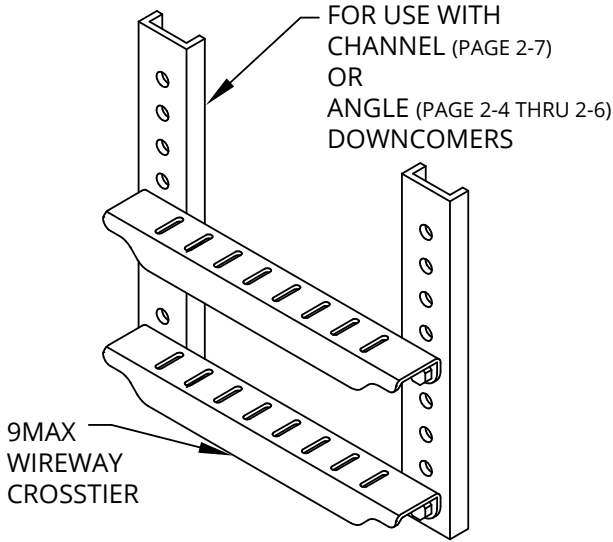
9M-06 - 9M-20

9M-06S - 9M-20S

# 9MAX CROSSTIER

## MAX LOAD WIREWAY CROSSTIER

DESIGNED TO MEET EXTRA HEAVY LOADS,  
RATED FOR 150 LBS. EACH TIER



AVAILABLE IN 1" INCREMENTS FROM 6" TO 30"

ALUMINUM

STEEL

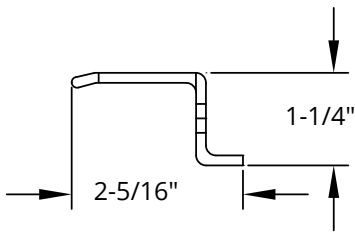
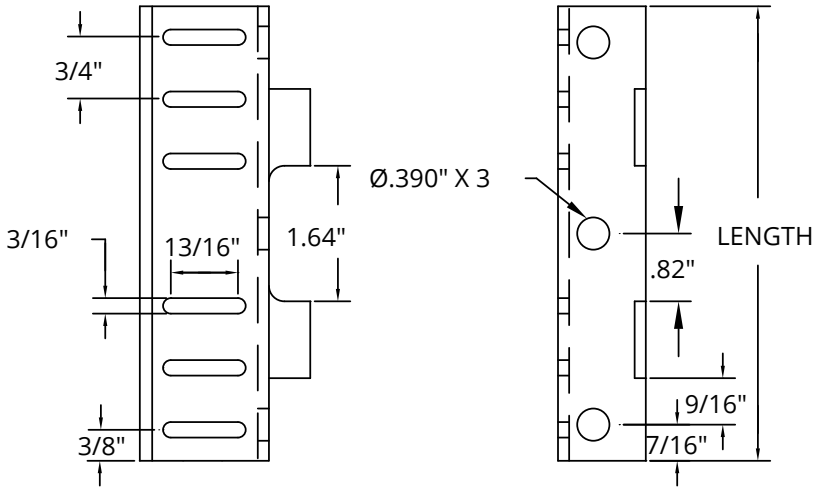
STAINLESS

9MAX06A - 9MAX30A

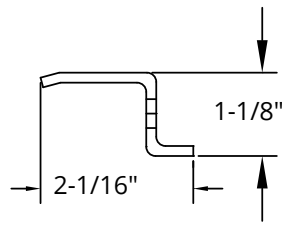
9MAX06 - 9MAX30

9MAX06S - 9MAX30S

# NAVY STANDARD CROSSTIE



ALUMINUM



STEEL

MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"

ALUMINUM

STEEL

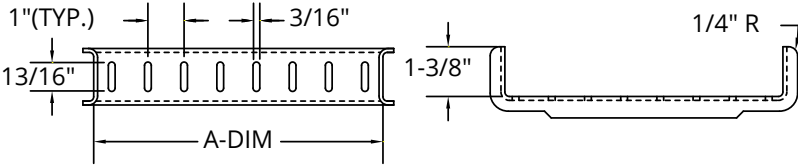
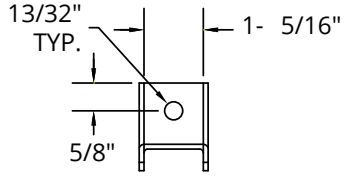
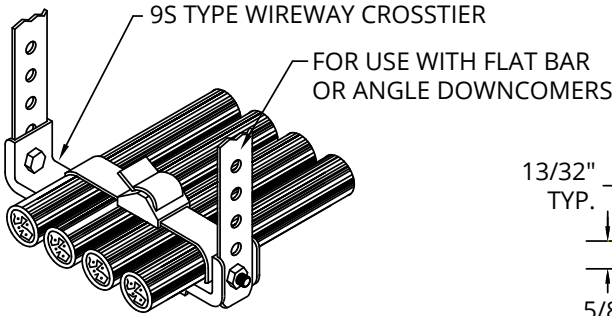
STAINLESS

3CT-06 - 3CT-20

3CTS-06 - 3CTS-20

3CTSS-06 - 3CTSS-20

# 9S CROSSTIER



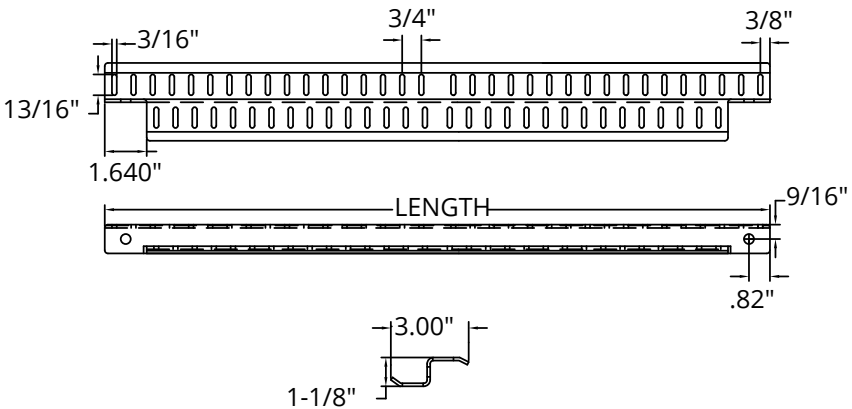
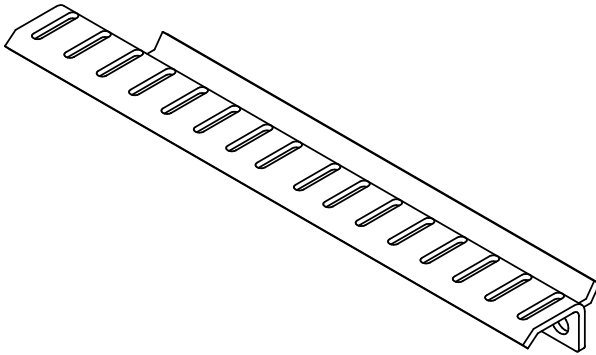
ALUMINUM	STEEL	STAINLESS	A-DIM
9A08	9S08	9SS08	7"
9A09	9S09	9SS09	8"
9A10	9S10	9SS10	9"
9A11	9S11	9SS11	10"
9A12	9S12	9SS12	11"
9A13	9S13	9SS13	12"
9A14	9S14	9SS14	13"
9A15	9S15	9SS15	14"
9A16	9S16	9SS16	15"
9A17	9S17	9SS17	16"
9A18	9S18	9SS18	17"
9A19	9S19	9SS19	18"
9A20	9S20	9SS20	19"
9A22	9S22	9SS22	21"
9A24	9S24	9SS24	23"
ALUMINUM	STEEL	STAINLESS	
9A08 - 9A24	9S08 - 9S24	9SS08 - 9SS24	



# HEAVY DUTY OVER/UNDER CROSSTIER

DESIGNED TO MEET EXTRA HEAVY LOADS,  
RATED FOR UP TO 228 LBS. PER TIER

TO BE USED WITH TWO CHANNEL DOWNCOMERS



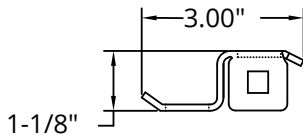
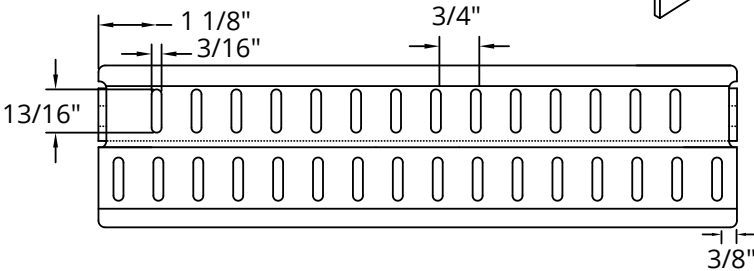
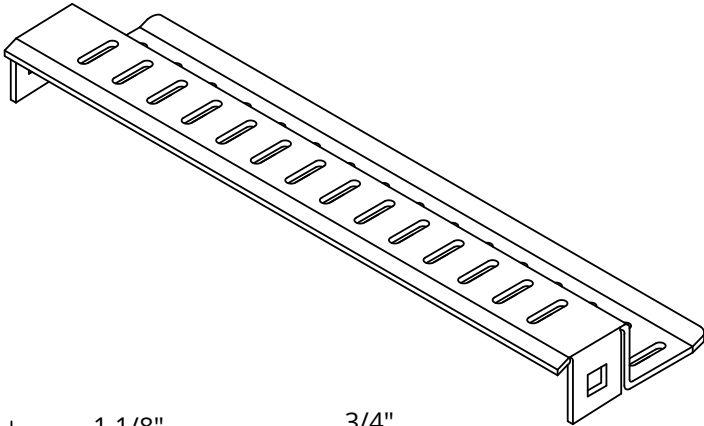
AVAILABLE IN 17" AND 2" INCREMENTS FROM 20" TO 30"

STEEL

30US-171 - 30US-301

# OVER/UNDER CROSSTIER WITH TABS

DESIGNED FOR FULL SURFACE CONTACT WITH CABLE ON ELEVATION CHANGES



AVAILABLE IN 12", 17", AND 2" INCREMENTS FROM 18" TO 38"

STEEL

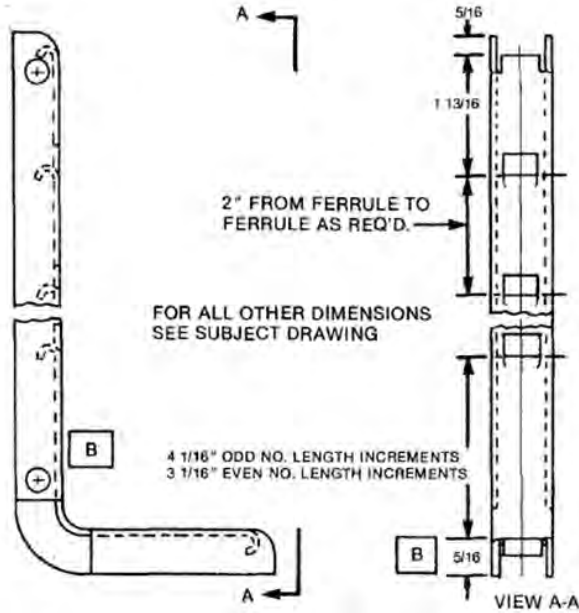
30USW-12 - 30USW-38

STAINLESS

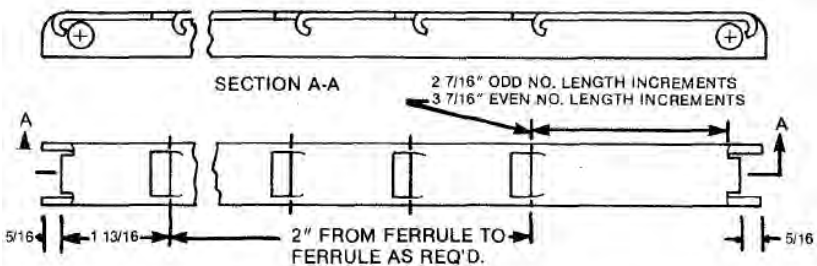
30USSW-12 - 30USSW-38

# BRANDING TYPE CABLE HANGERS

## TYPE 7 - STAMPED FERRULE OPTION



## TYPE 8 - STAMPED FERRULE OPTION



BANDING HANGERS TYPES 2, 3, 7, 8, 19, & 20 CAN BE MANUFACTURED IN STRICT COMPLIANCE WITH BUSHIPS DWG 302-1716084.

FINISHES AVAILABLE: BANDING HANGERS, TYPES 2, 3, 7 & 8: MILITARY YELLOW ZINC CHROMATE

**AVAILABLE IN 1" INCREMENTS IN THE SIZE AND RANGES BELOW**

**STEEL**

**TYPE 1**

**TYPE 2 OR 7**

**TYPE 3 OR 8**

6.25" TO 16.25"

4"x2" TO 17"x4"

3" TO 24"



**DOWNCOMERS &  
ACCESSORIES**



# DOWNCOMERS & ACCESSORIES



## UNIVERSAL ANGLE

3ADA-03U - 3ADA-120U ALUMINUM  
3ADS-03U - 3ADS-120U STEEL  
3ADSS-03U - 3ADSS-120U STAINLESS

P. 2-4



## SQUARE TUBE

### EXTENSION ADAPTER

RDA-5 ALUMINUM  
RD-5 STEEL

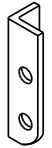
P. 2-9



## METRIC ANGLE

3ADS-180 - 3ADS-3000 STEEL

P. 2-5



## ANGLE IRON

2A-03 - 2A-41 STEEL  
2A-03A - 2A-41A ALUMINUM

P. 2-10



## NAVY STANDARD ANGLE

3ADA-03 - 3ADA-36 ALUMINUM  
3ADS-03 - 3ADS-48 STEEL  
3ADSS-03 - 3ADSS-48 STAINLESS  
\*Part number equals one pair.

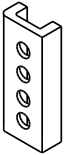
P. 2-6



## FLAT BAR

2F-03 - 2F-15 STEEL  
2F-03A - 2F-15A ALUMINUM

P. 2-11



## CHANNEL

3CD-03 - 3CD-120 ALUMINUM  
3CDS-03 - 3CDS-120 STEEL  
3CDSS-03 - 3CDSS-120 STAINLESS

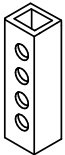
P. 2-7



## MOUNTING ADAPTERS

3ADPS-0  
3ADPA  
3ADPS-4B  
3ADPA-4B

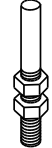
P. 2-12



## SQUARE TUBE

RTA-06 - RTA-36 ALUMINUM  
RT-06 - RT-36 STEEL

P. 2-8

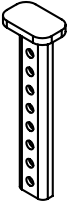


## CABLE RETAINER

3STKS-03 - 3STKS-24 STEEL  
3STKC-03 - 3STKC-24 STAINLESS

P. 2-13

# DOWNCOMERS AND ACCESSORIES



DOUBLER PAD

DOWNCOMER

3CDS-03D - 3CDS-40D PAINTED

3CDS-03DR - 3CDS-40DR RAW

P. 2-14

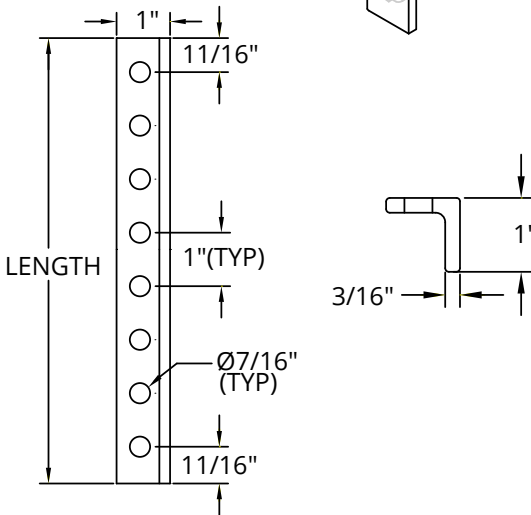
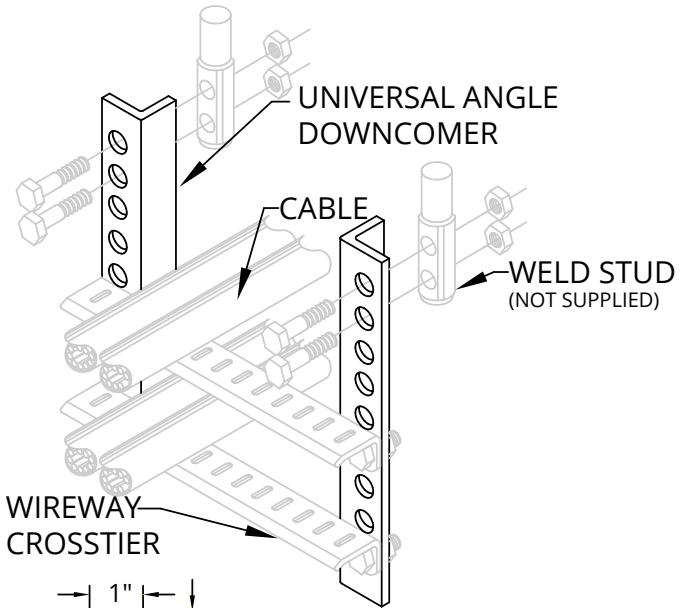


# **DOWNCOMERS AND ACCESSORIES**

## **NOTES**

# UNIVERSAL ANGLE

## WELD STUD MOUNTING



AVAILABLE IN 1" INCREMENTS FROM 3 3/8" TO 48 3/8" & 120 3/8"

\*ADDITIONAL SIZES AVAILABLE ON REQUEST\*

ALUMINUM

STEEL

STAINLESS

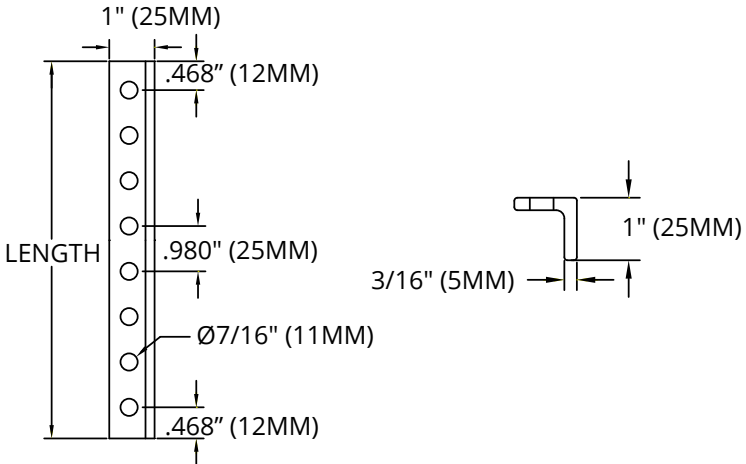
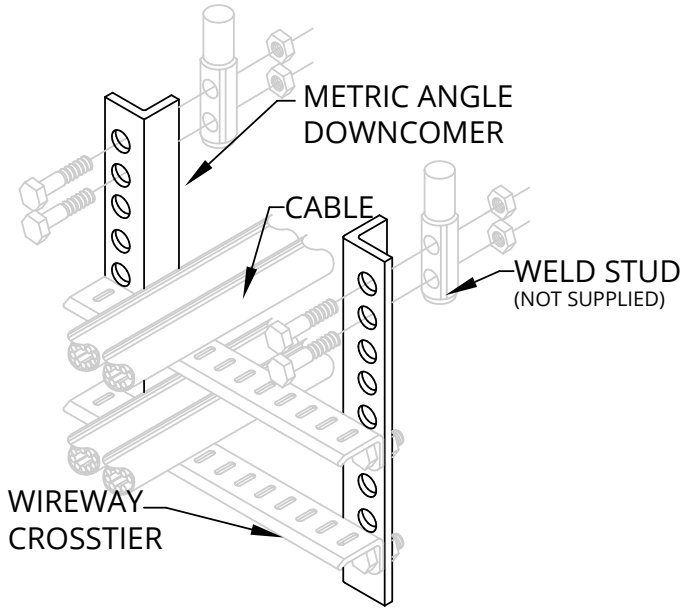
3ADA-03U - 3ADA-120U

3ADS-03U - 3ADS-120U

3ADSS-03U - 3ADSS-120U

# METRIC ANGLE

## WELD STUD MOUNTING



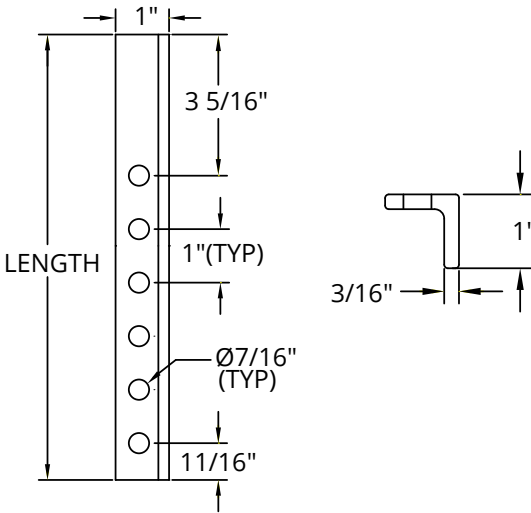
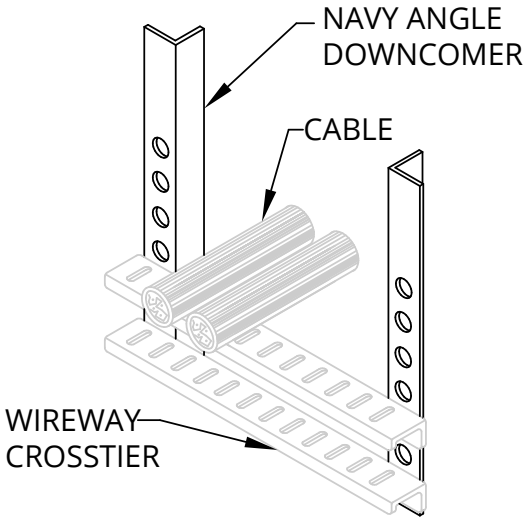
AVAILABLE IN 25MM INCREMENTS FROM 180MM TO 3000MM

STEEL

3ADS-0180 - 3ADS-3000

# NAVY STANDARD ANGLE

## WELD MOUNTING



\*Part number equals one pair.  
Parts priced separately

**AVAILABLE IN 1" INCREMENTS FROM 3" TO 48"**

**ALUMINUM**

3ADA-03 - 3ADA-36

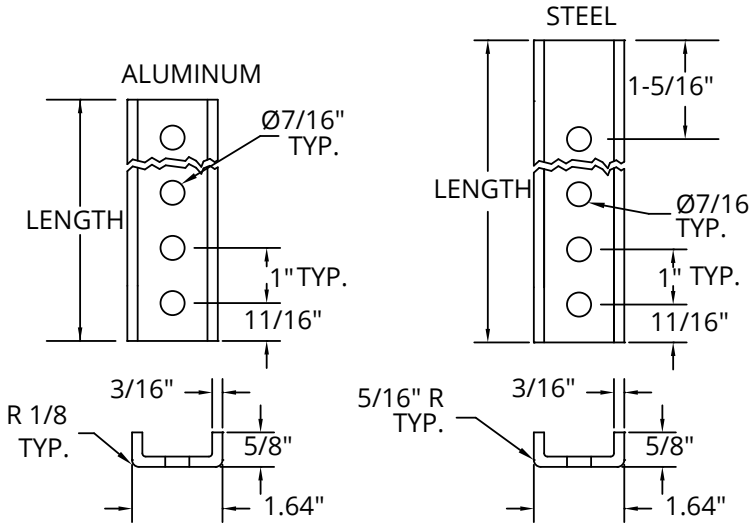
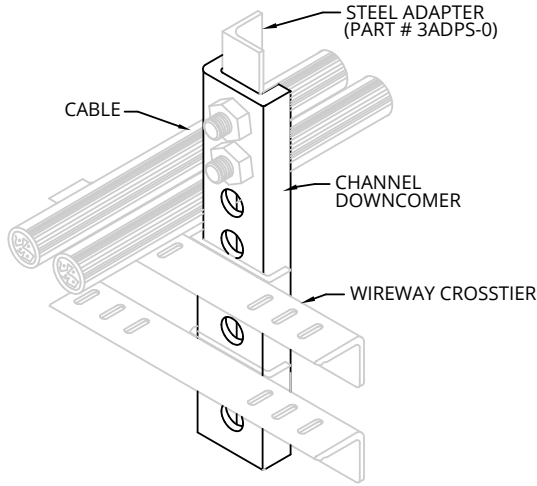
**STEEL**

3ADS-03 - 3ADS-48

**STAINLESS**

3ADSS-03 - 3ADSS-48

# CHANNEL



MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

**AVAILABLE IN 1" INCREMENTS  
FROM 3 3/8" TO 36 3/8" & 120"**

**AVAILABLE IN 1" INCREMENTS  
FROM 4" TO 48" & 120"**

**\*ADDITIONAL SIZES AVAILABLE ON REQUEST\***

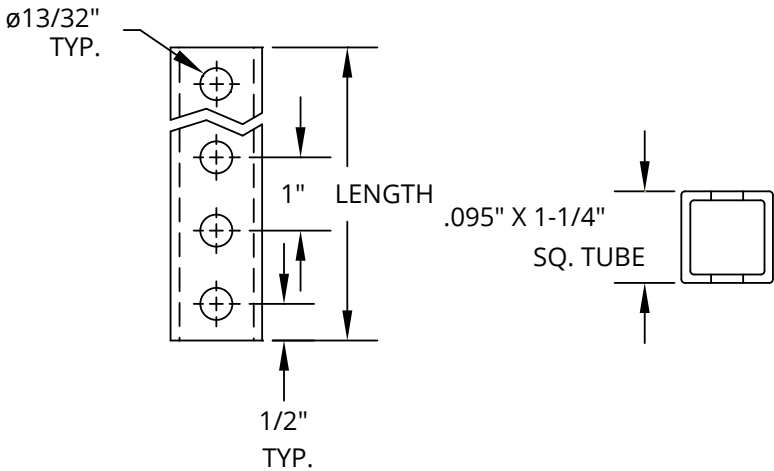
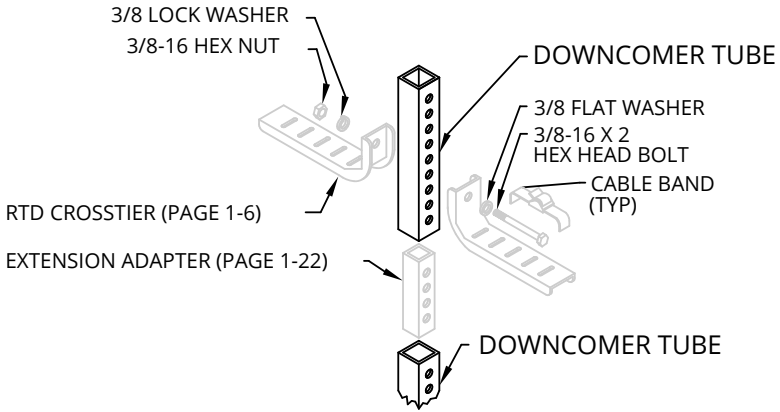
**ALUMINUM**

**STEEL**

3CD-03 - 3CD-120

3CDS-04 - 3CDS-120

# SQUARE TUBE



AVAILABLE IN 1" INCREMENTS FROM 6" - 36"

\*ADDITIONAL SIZES AVAILABLE ON REQUEST\*

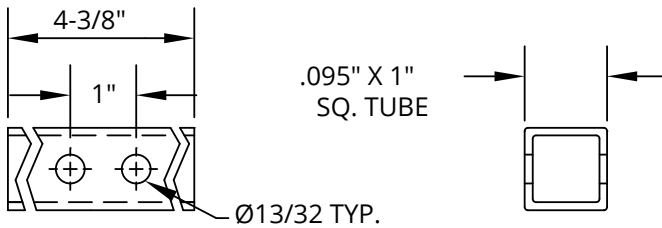
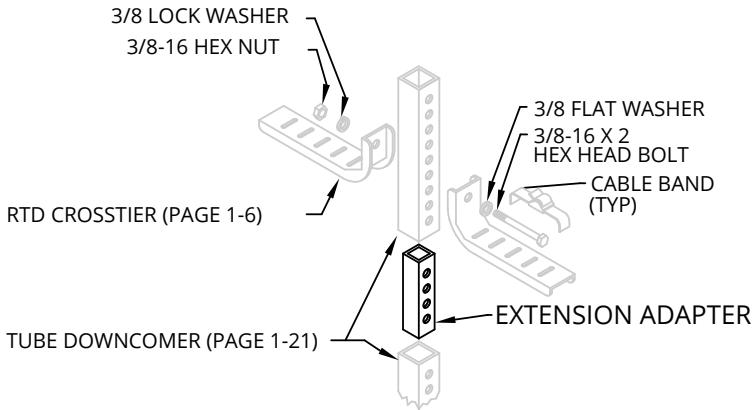
ALUMINUM

STEEL

RTA-06 - RTA-36

RT-06 - RT-36

# SQUARE TUBE EXTENSION ADAPTER



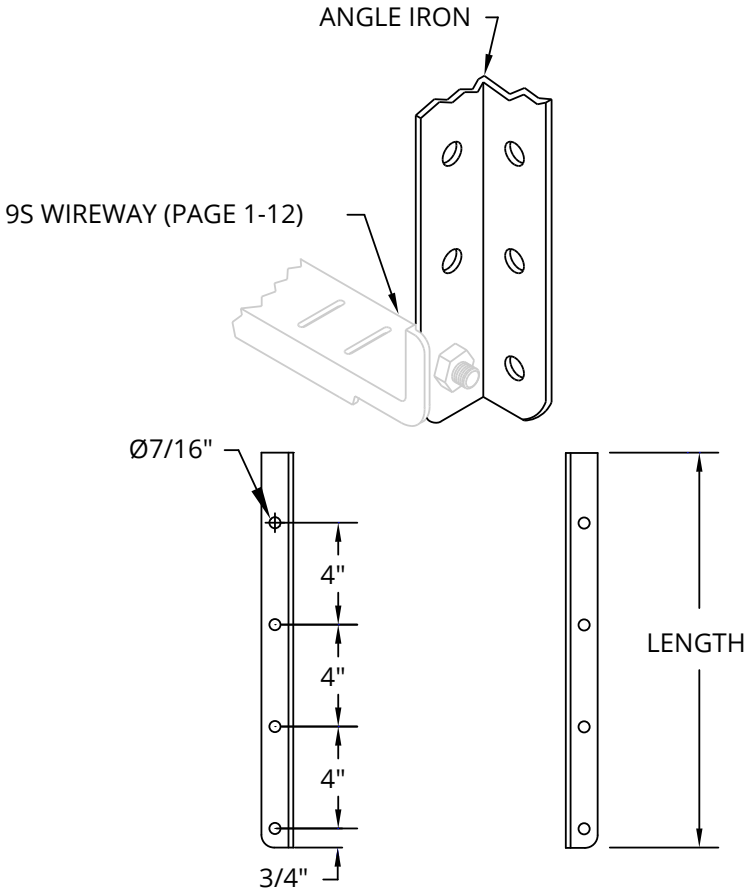
**ALUMINUM**

RDA-5

**STEEL**

RD-5

# ANGLE IRON



1-1/4" X 1-1/4" X 3/16"

**AVAILABLE IN 2" INCREMENTS FROM 3 1/2" TO 41 1/2"  
ADDITIONAL SIZES AVAILABLE ON REQUEST**

## STEEL

**PART NUMBER**

**NUMBER OF HOLES**

2A-03 - 2A-05

1

2A-07 - 2A-09

2

2A-11 - 2A-13

3

2A-15 - 2A-39

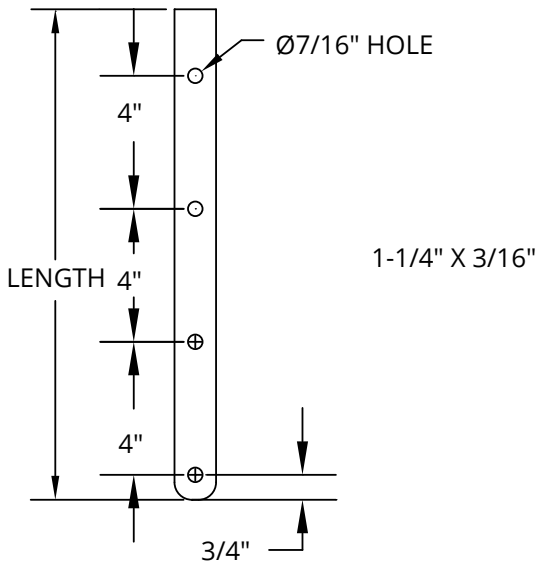
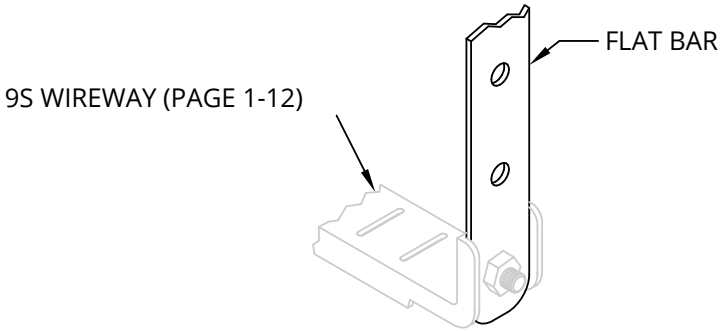
4

2A-41

5



# FLAT BAR



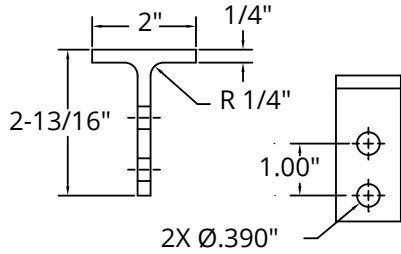
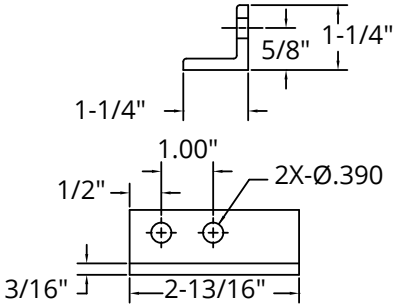
**AVAILABLE IN 2' INCREMENTS FROM 3 1/2" TO 15 1/2"**

**STEEL**  
Also available in Aluminum

PART NUMBER	NUMBER OF HOLES
2F-03 - 2F-05	1
2F-07 - 2F-09	2
2F-11 - 2F-13	3
2F-15	4

# MOUNTING ADAPTERS

MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027



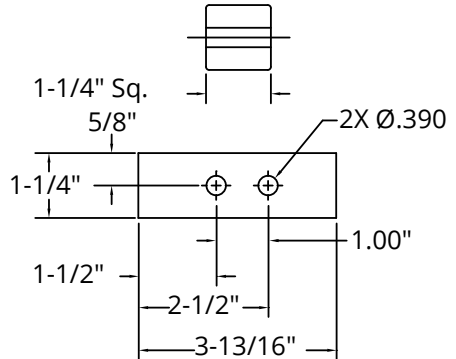
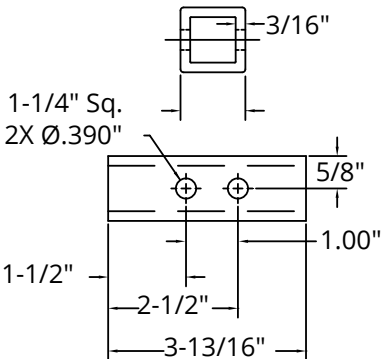
**STEEL**

3ADPS-0

**ALUMINUM**

3ADPA

MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. DOD-2003



**STEEL**

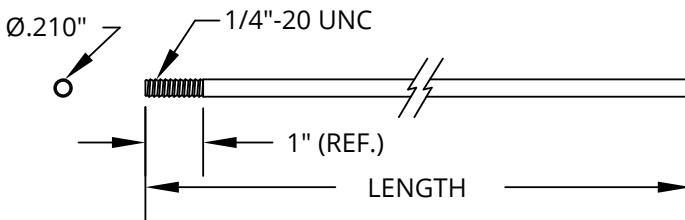
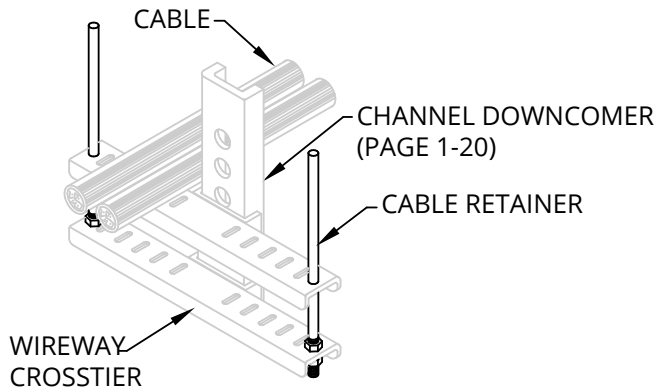
3ADPS-4B

**ALUMINUM**

3ADPA-4B

# CABLE RETAINER

TO BE USED WITH 3MOR-XX AND 3MAX-XX  
MILITARY OPTIONAL REPLACEMENT CROSSTIER



REDUCES BANDING REQUIREMENTS &  
HELPS STABILIZE OFF CENTER LOADS

**Note: mild steel retainer is zinc plated**

**AVAILABLE IN 2" INCREMENTS FROM 3" TO 24"  
\*ADDITIONAL SIZES AVAILABLE ON REQUEST\***

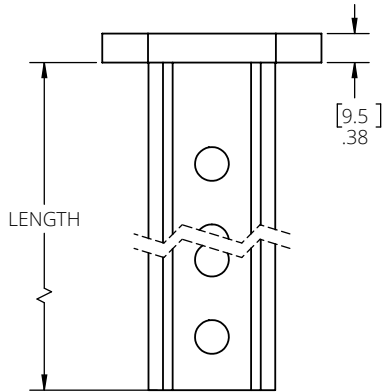
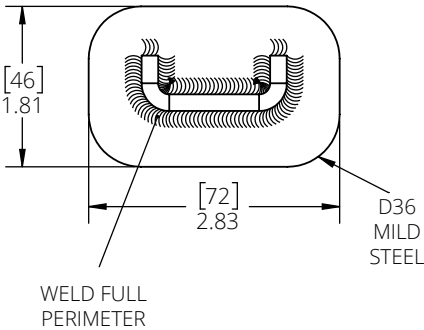
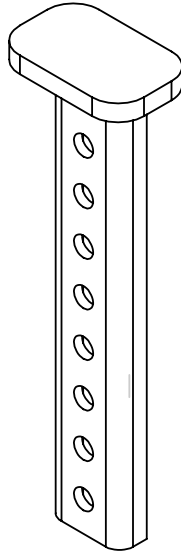
**STEEL**

3STKS-03 - 3STKS-24

**STAINLESS**

3STKC-03 - 3STKC-24

# DOUBLER PAD DOWNCOMER



AVAILABLE IN 1" INCREMENTS FROM 3" - 40"

\*ADDITIONAL SIZES AVAILABLE ON REQUEST\*

PAINTED

3CDS-03D - 3CDS-40D

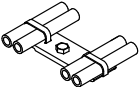
RAW

3CDS-03DR - 3CDS-40DR

# **INTERMEDIATE WIREWAYS**



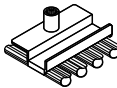
# INTERMEDIATE WIREWAYS



**9T WIREWAY**

9TA06 - 9TA16 ALUMINUM  
 9T06 - 9T16 STEEL  
 9TC06 - 9TC16 STAINLESS

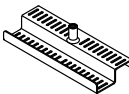
P. 3-3



**PLATE HANGERS**

RTW620B - RTW680B STEEL  
 BOTTOM LOADING  
 RTW620T - RTW680T STEEL  
 TOP LOADING

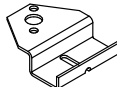
P. 3-7



**SHOTGUN HANGER**

RTWSG30MS - RTWSG70MS STEEL  
 RTWSG30SS - RTWSG70SS STAINLESS  
 RTWSG30AL - RTWSG70AL STEEL

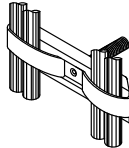
P. 3-4



**CABLE SUPPORT**

RTD6075A - RTD6600A ALUMINUM  
 RTD6075 - RTD6600 STEEL

P. 3-8



**T-BAR HANGER  
 HEAVY DUTY**

RTG7150 - RTG7750 STEEL CAP 20.0 LBS  
 RTG7150S - RTG7750S STAINLESS  
 CAP 20.0 LBS

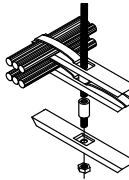
P. 3-5



**CABLE SUPPORT  
 HONEYCOMB  
 SINGLE**

RT60201A - RT60801A ALUMINUM  
 RT60201 - RT60801 STEEL  
 RT60201S - RT60801S STAINLESS

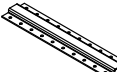
P. 3-9



**T-BAR HANGER  
 HEAVY DUTY  
 INVERTED T**

RTGT7550 - RTGT7750 STEEL  
 CAP 20.0 LBS  
 RTGT7550S - RTGT7750S STAINLESS  
 CAP 20.0 LBS

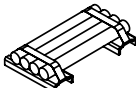
P. 3-6



**CABLE SUPPORT  
 HONEYCOMB  
 DOUBLE**

RT60902A - RT61302A ALUMINUM  
 RT60902 - RT61302 STEEL  
 RT60902S - RT61302S STAINLESS

P. 3-10



**CHANNEL HANGER**

9C01S - 9C04S STEEL  
 9C01A - 9C04A STEEL

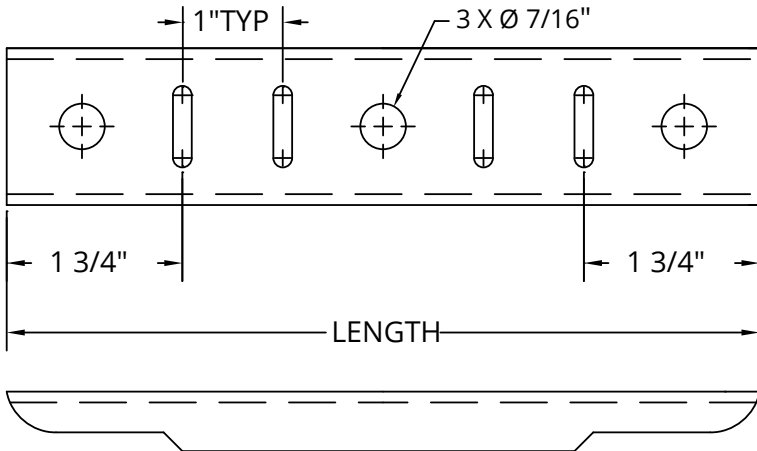
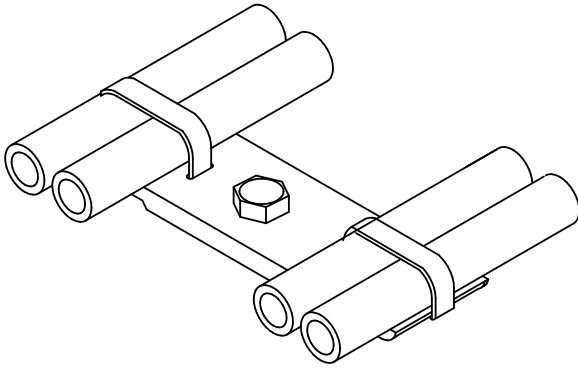
P. 3-11

# **INTERMEDIATE WIREWAYS**

## NOTES



# 9T WIREWAY



LENGTH EVERY 2" FROM 6" TO 24"

ALUMINUM

STEEL

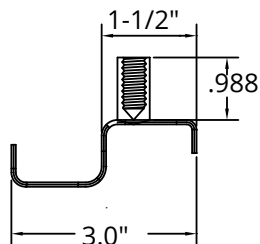
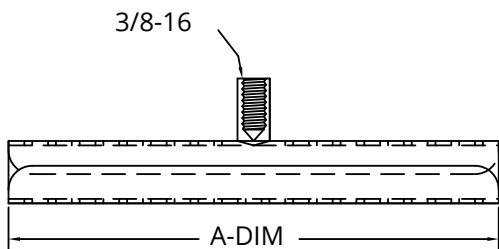
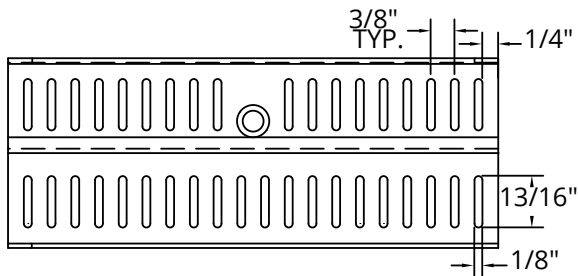
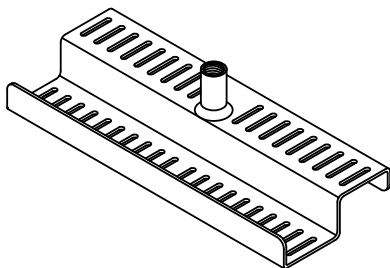
STAINLESS

9TA06 - 9TA24

9T06 - 9T24

9TC06 - 9TC24

# SHOTGUN HANGER



## ADDITIONAL TAPPED PAD SIZES AVAILABLE

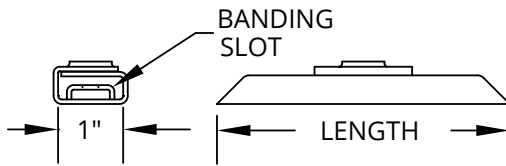
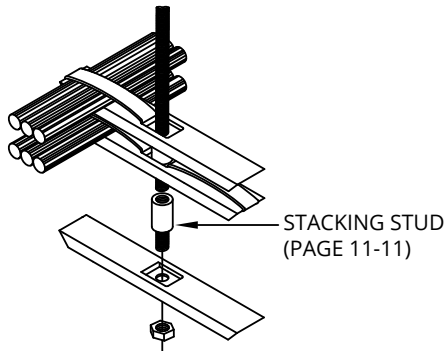
ALUMINUM	STEEL	STAINLESS	A
RTWSG30AL	RTWSG30MS	RTWSG30SS	3-1/4"
RTWSG350AL	RTWSG50MS	RTWSG50SS	4-3/4"
RTWSG70AL	RTWSG70MS	RTWSG70SS	7-3/4"



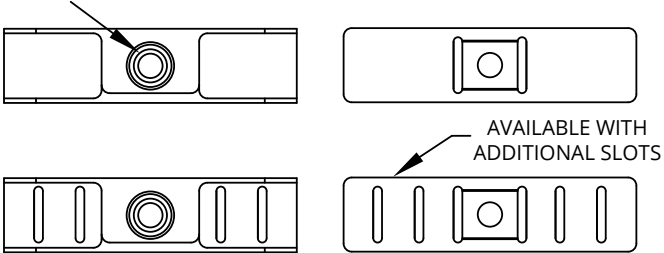
# T-BAR HANGER

INVERTED T HEAVY DUTY

RATED FOR LOADS UP TO 20 LBS



3/8-16 THREAD WITH THRU HOLE



MAX LOAD: 2 TIER OFF BULKHEAD, 3 TIER OFF OVERHEAD

**AVAILABLE IN 1" INCREMENTS FROM 2 1/2" - 7 1/2"**

**STEEL**

RTGT7250 - RTGT7750

**STAINLESS**

RTGT7250S - RTGT7750S

**STEEL WITH ADDITIONAL SLOTS**

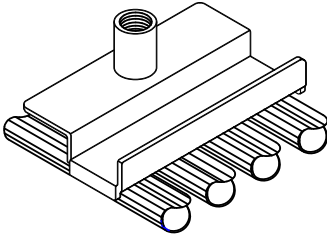
RTGTS7350 - RTGTS7750

**STAINLESS WITH ADDITIONAL SLOTS**

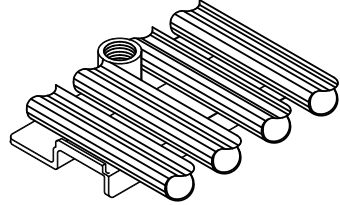
RTGTS7350S - RTGTS7750S

# PLATE HANGER

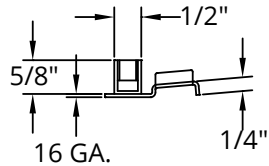
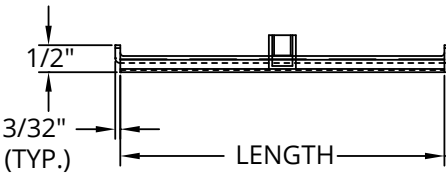
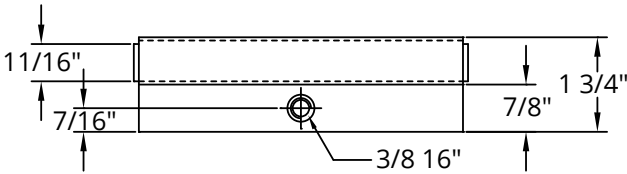
AVAILABLE IN TOP AND BOTTOM LOADING



BOTTOM LOADING



(INVERTED) TOP LOADING



AVAILABLE IN 1" INCREMENTS FROM 2" - 8"

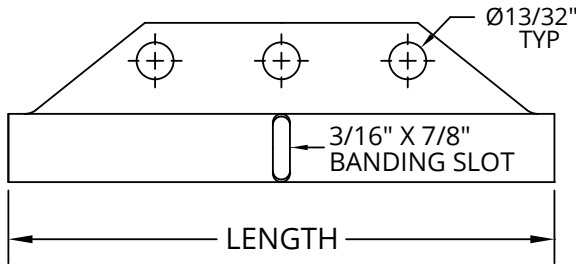
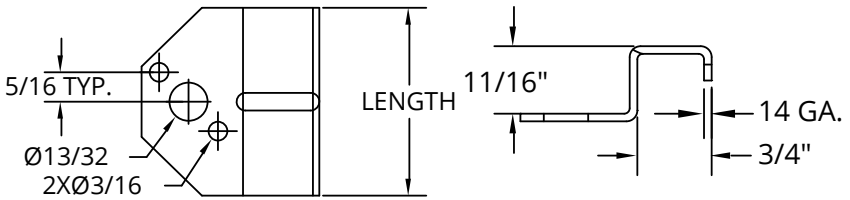
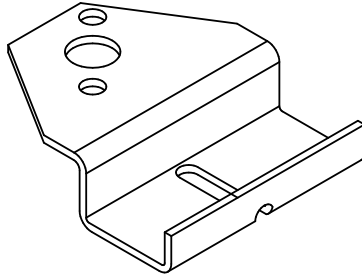
**BOTTOM LOADING IN STEEL**

RTW620B - RTW680B

**TOP LOADING IN STEEL**

RTW620T - RTW680T

# CABLE SUPPORTS



3/4" LENGTH HAS ONE MOUNT HOLE ONLY  
 1" - 3" HAS ONE MOUNT HOLE AND TWO RIVET HOLES  
 4" - 6" HAS THREE MOUNT HOLES

**AVAILABLE IN 1/2" INCREMENTS FROM 3/4", 1" - 6"**

**ALUMINUM**

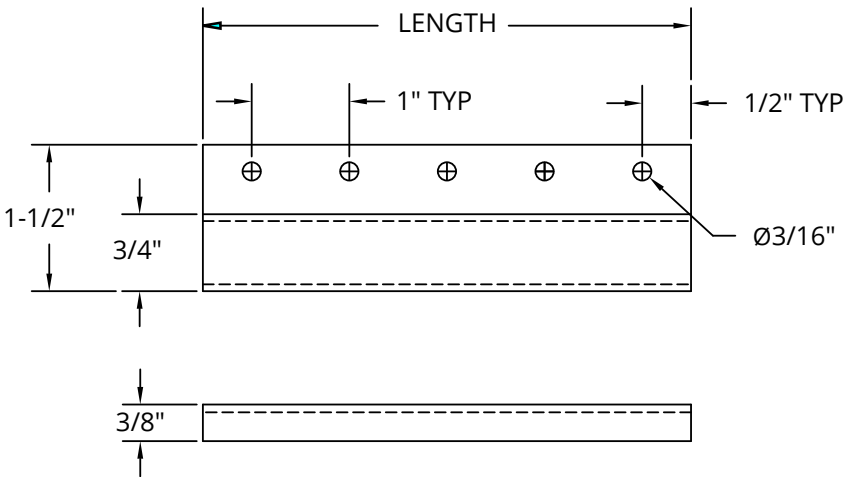
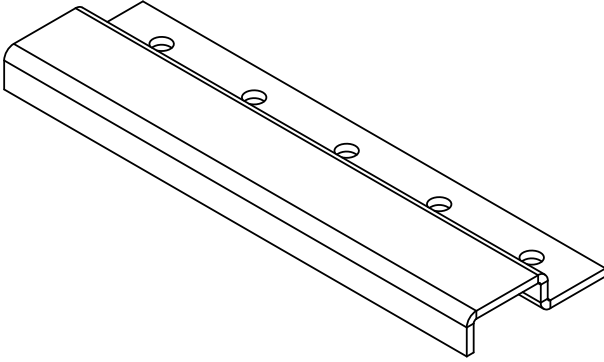
RTD6075A - RTD6600A

**STEEL**

RTD6075 - RTD6600

# CABLE SUPPORT

## HONEYCOMB SINGLE



AVAILABLE IN 1" INCREMENTS FROM 2" TO 8"

ALUMINUM

STEEL

STAINLESS

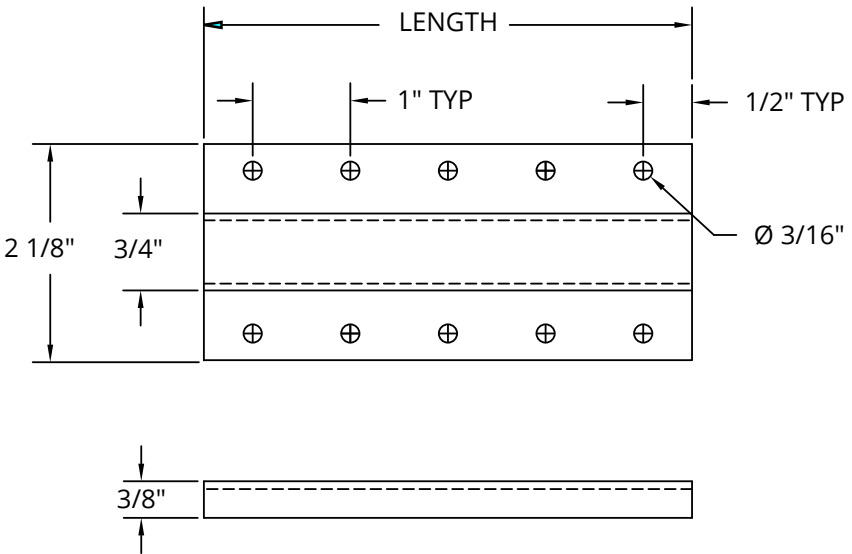
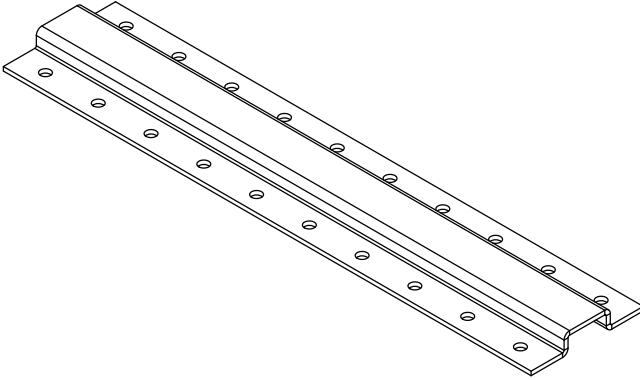
RT60201A - RT60801A

RT60201 - RT60801

RT60201S - RT60801S

# CABLE SUPPORT

## HONEYCOMB DOUBLE



AVAILABLE IN 1" INCREMENTS FROM 9" TO 13"

ALUMINUM

STEEL

STAINLESS

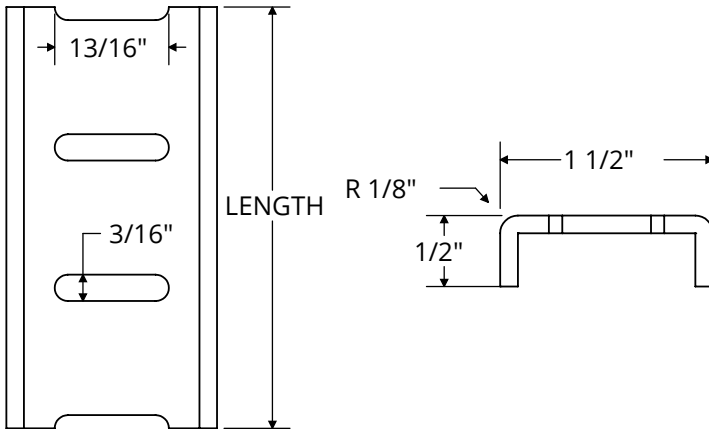
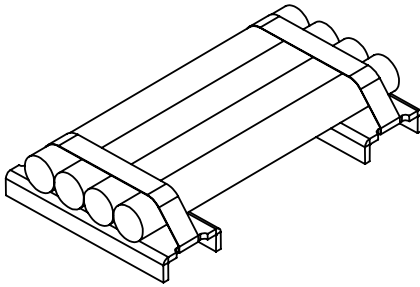
RT60902A - RT61302A

RT60902 - RT61302

RT60902S - RT61302S



# CHANNEL HANGER



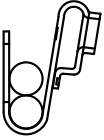
ADDITIONAL LENGTHS AVAILABLE		
ALUMINUM	STEEL	LENGTH
9C01A	9C01S	1"
9C02A	9C02S	2"
9C03A	9C03S	3"
9C04A	9C04S	4"
9C12A	9C12S	12"
9C20A	9C20S	20"



# **LOCAL WIREWAYS & CABLE HANGERS**



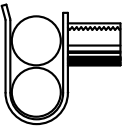
# LOCAL WIREWAYS & CABLE HANGERS



## PINCH HANGER GOLDEN LOKS

AVAILABLE IN:  
SINGLES  
DOUBLES  
TRIPLES  
QUADS (2)

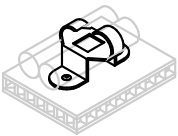
P. 4-3



## PINCH HANGER WELDED

AVAILABLE IN:  
SINGLES  
DOUBLES  
TRIPLES  
QUADS

P. 4-4, 4-5



## PINCH HANGER HONEYCOMB BULKHEAD

RTD8125 - RTD8450 STEEL  
RTD8125S - RTD8450S STAINLESS

P. 4-6

# **LOCAL WIREWAYS & CABLE HANGERS**

## NOTES

# PINCH HANGER

## GOLDEN LOKS



STEEL	STAINLESS STEEL	A-DIA
RTGW1275	RTGW1275S	.275
RTGW1358	RTGW1358S	.371
RTGW1531	RTGW1531S	.531
RTGW1680	RTGW1680S	.680
RTGW1750	RTGW1750S	.750
RTGW1900	RTGW1900S	.900
RTGW1224	RTGW1224S	1.224



STEEL	STAINLESS STEEL	A-DIA
RTGW2275	RTGW2275S	.275
RTGW2358	RTGW2358S	.371
RTGW2531	RTGW2531S	.531
RTGW2680	RTGW2680S	.680
RTGW2750	RTGW2750S	.750



STEEL	STAINLESS STEEL	A-DIA
RTGW3358	RTGW3358S	.371
RTGW3531	RTGW3531S	.531



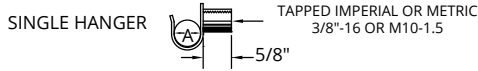
STEEL	STAINLESS STEEL	A-DIA
RTG4531	RTG4531S	2 x .531



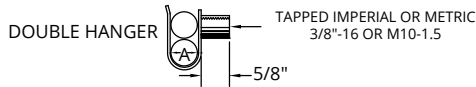
STEEL	STAINLESS STEEL	A-DIA
RTG5750	RTG5750S	4 X .75

# PINCH HANGER

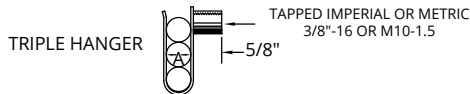
## WELDED



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW1275	RTM1275	RTW1275S	RTM1275S	.275
RTW1358	RTM1358	RTW1358S	RTM1358S	.305 - .371
RTW1531	RTM1531	RTW1531S	RTM1531S	.375 - .531
RTW1680	RTM1680	RTW1680S	RTM1680S	.531 - .680
RTW1750	RTM1750	RTW1750S	RTM1750S	.437 - .750
RTW1900	RTM1900	RTW1900S	RTM1900S	.680 - .900
RTW1000	RTM1000	RTW1000S	RTM1000S	.750 - 1.000
RTW1224	RTM1224	RTW1224S	RTM1224S	1.224



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW2275	RTM2275	RTW2275S	RTM2275S	.275
RTW2358	RTM2358	RTW2358S	RTM2358S	.305 - .371
RTW2531	RTM2531	RTW2531S	RTM2531S	.375 - .531
RTW2680	RTM2680	RTW2680S	RTM2680S	.531 - .680
RTW2750	RTM2750	RTW2750S	RTM2750S	.437 - .750
RTW2900	RTM2900	RTW2900S	RTM2900S	.680 - .900
RTW21000	RTM21000	RTW21000S	RTM21000S	.750 - 1.000
RTW2000	RTM2000	RTW2000S	RTM2000S	1.000



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW3371	RTM3371	RTW3371S	RTM3371S	.325 - .371
RTW3531	RTM3531	RTW3531S	RTM3531S	.531

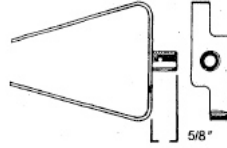
Note: Add "C" to the end of the part number if you want Platisol Coating.



# PINCH HANGER

## WELDED

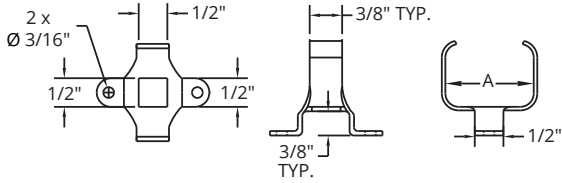
FOUR STACKED  
DBL HANGER



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
1041	1041M	1041SS	1041MSS	.500
1045	1045M	1045SS	1045MSS	.680
1043	1043M	1043SS	1043MSS	.750
1042	1042M	1042SS	1042MSS	1.000
1044	1044M	1044SS	1044MSS	1.224

# PINCH HANGER

## HONEYCOMB BULKHEAD

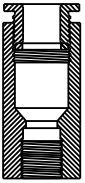


STEEL	STAINLESS	LEGS	CABLES	A-DIM	RIVET SIZE
RTD8125	RTD8125S	1	1	.300	4
RTD8150	RTD8150S	1	1	.550	6
RTD8250	RTD8250S	2	2	1.100	6
RTD8350	RTD8350S	2	3	1.650	6
RTD8450	RTD8450S	2	4	2.200	6

# **STUFFING TUBES**



# STUFFING TUBES

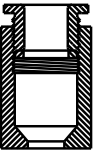


MIL-S-24235/9  
FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SURFACE SHIPS, PIPE MUST BE ADDED.  
TYPE 48-6 STEEL. - TYPE 48-5 BRASS  
SYMBOL: 1520 - 1542, 1570 - 1592

P. 5-3



MIL-S-24235/18  
FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION REDUCED PENETRATION DIAMETER.  
STEEL/STAINLESS/ALUMINUM - SWAGE TYPE  
SYMBOL: 1821 - 1843, 1871 - 1893, 1911 - 1933, 1941 - 1963  
P. 5-8



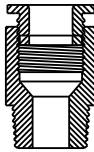
MIL-S-24235/10  
FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITHOUT PIPE PROTECTION.  
TYPE 30-2A STEEL  
SYMBOL: 1600 - 1622

P. 5-4



REDUCING ADAPTER  
102BA - 102AAZ STEEL  
112BA - 112AAZ ALUMINUM

P. 5-9



MIL-S-24235/13  
FOR ELECTRIC CABLE PENETRATION OF CAST ENCLOSURES.  
TYPE 21 ALUM. - TYPE 22B BRASS -  
TYPE 22S STEEL  
NO SYMBOL ASSIGNED

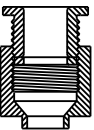
P. 5-5



SEALING PLUG  
MIL-S-24235/19

100AST - 100AAS STEEL

P. 5-10



MIL-S-24235/14  
FOR ELECTRIC PENETRATION OF SHEET METAL ENCLOSURES.  
TYPE 51 STEEL. - TYPE 51B BRASS  
NO SYMBOL ASSIGNED

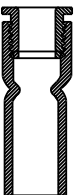
P. 5-6



EMI CONDUIT ADAPTER

7RTA××B - 7RTNA××B BRASS  
7RTA××A - 7RTNA××A ALUMINUM  
7RTA××C - 7RTNA××C STAINLESS

P. 5-11



MIL-S-24235/17  
FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION  
STEEL/ALUMINUM - SWAGE TYPE  
SYMBOL: 1701 - 1723, 1731 - 1753, 1761 - 1783, 1791 - 1813

P. 5-7



NEOPAK

P-15187X - P-15500X

\*\*\* Limited Availability\*\*\*

P. 5-12

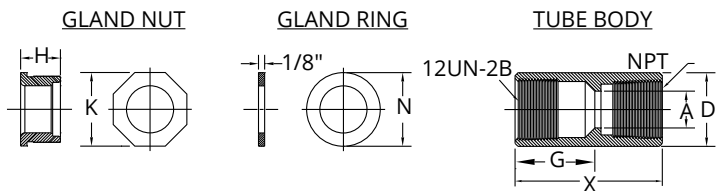
# **STUFFING TUBES**

## NOTES

# STUFFING TUBES

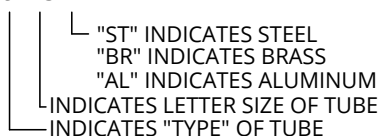
## M24235/9 STUFFING TUBE ASSEMBLY

For electric cable penetration of decks and bulkheads on surface ships, pipe must be added.  
 TYPE 48-6 STEEL. - TYPE 48-5 BRASS - SYMBOL: 1520 - 1542, 1570 - 1592



CATALOG NUMBERING SYSTEM M24235/9 STUFFING TUBE SAMPLE CATALOG NUMBER:

9-A-ST



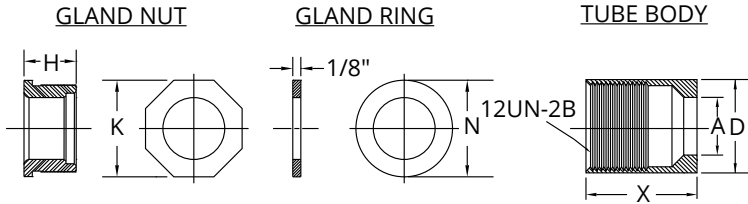
(OTHER MATERIALS AVAILABLE) SOME SIZES AVAILABLE WITH EXTENSIONS & LOCKNUTS

SIZE	A	G	H	D	K	N	X	NPT	12UN-2B
A	.406	1-5/8	1-1/16	1-1/8	1-1/32	3/4	2-3/4	3/8-18	7/8
B	.515	1-5/8	1-1/16	1-1/4	1-1/8	7/8	2-3/4	1/2-14	
C	.640	1-5/8	1-1/16	1-3/8	1-1/4	1.00	3.00	3/4-14	1-1/8
D	.750	1-5/8	1-1/16	1-1/2	1-3/8	1-1/8	3.00	3/4-14	1-1/4
E	.812	1-5/8	1-1/16	1-5/8	1-3/8	1-1/8	3-1/8	1-11-1/2	1-1/4
F	.843	1-5/8	1-1/16	1-5/8	1-7/16	1-3/16	3-1/8	1-11-1/2	1-5/16
G	.953	1-11/16	1-3/16	1-13/16	1-21/32	1-3/8	3-1/8	1-11-1/2	1-1/2
	1.062	1-11/16	1-3/16	2.00	1-25/32	1-1/2	3-1/8	1-1/4-11-1/2	1-5/8
K	1.171	3	1-1/2	2-1/16	1-7/8	1-5/8	4-1/2	1-1/4-11-1/2	1-3/4
L	1.265	3	1-1/2	2-1/8	1-15/16	1-11/16	4-1/2	1-1/4-11-1/2	1-13/16
M	1.406	3	1-1/2	2-5/16	2-3/16	1-7/8	4-1/2	1-1/2-11-1/2	2
N	1.515	3	1-9/16	2-7/16	2-1/4	1-15/16	4-1/2	1-1/2-11-1/2	2-1/16
P	1.625	3	1-9/16	2-3/4	2-11/32	2-1/16	4-1/2	2-11-1/2	2-3/16
R	1.750	3	1-9/16	2-3/4	2-15/32	2-3/16	4-1/2	2-11-1/2	2-5/16
S	1.875	5	2-3/16	3-1/16	2-13/16	2-9/16	7.00	2-11-1/2	2-11/16
T	2.062	5	2-3/16	3-1/4	2-31/32	2-3/4	7-1/4	2-1/2-8	2-7/8
V	2.187	5	2-3/16	3-3/8	3-3/32	2-7/8	7-1/4	2-1/2-8	3
W	2.312	5	2-3/16	3-1/2	3-9/32	3.00	7-1/4	2-1/2-8	3-1/8
X	2.500	5	2-3/16	3-7/8	3-7/16	3-1/8	7-1/4	3-8	3-1/4
Y	2.609	5	2-3/16	3-7/8	3-9/16	3-1/4	7-1/4	3-8	3-3/8
Z	2.781	5	2-3/16	3-15/16	3-3/4	3-7/16	7-1/4	3-8	3-9/16
AA	2.875	6-3/4	3-1/8	4-1/8	3-7/8	3-5/8	9.00	3-8	3-3/4
BB	3.157	6-3/4	3-1/8	4-1/2	4-1/8	3-7/8	9.00	3-1/2-8	4

# STUFFING TUBES

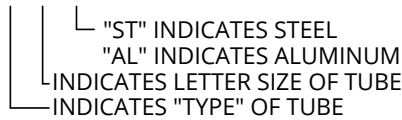
## M24235/10 STUFFING TUBE ASSEMBLY

For electric cable penetration of decks and bulkheads on ships without pipe protection.  
TYPE 30-2A STEEL - SYMBOL: 1600 - 1622



CATALOG NUMBERING SYSTEM M24235/10 STUFFING TUBE SAMPLE CATALOG NUMBER:

10-A-ST



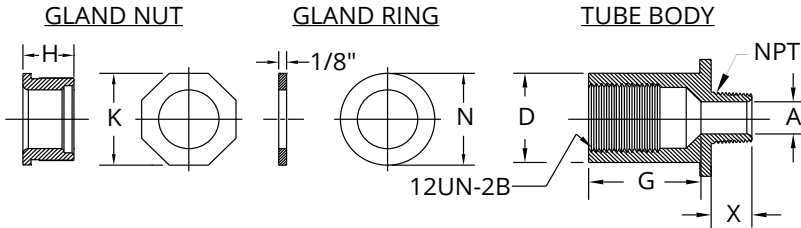
(OTHER MATERIALS AVAILABLE)							
SIZE	X	A	D	H	K	N	12UN-2B
A	1-3/4	.406	1-1/8	1-1/16	1-1/32	3/4	.875
B	1-3/4	.515	1-1/4	1-1/16	1-1/8	7/8	1.000
C	1-3/4	.640	1-3/8	1-1/16	1-1/4	1.00	1.125
D	1-3/4	.750	1-1/2	1-1/16	1-3/8	1-1/8	1.250
E	1-3/4	.812	1-5/8	1-1/16	1-3/8	1-1/8	1.250
F	1-3/4	.843	1-5/8	1-1/16	1-7/16	1-3/16	1.312
G	1-13/16	.953	1-13/16	1-3/16	1-21/32	1-3/8	1.500
J	1-13/16	1.062	2.00	1-3/16	1-25/32	1-1/2	1.625
K	3-1/8	1.171	2-1/16	1-1/2	1-7/8	1-5/8	1.750
L	3-1/8	1.265	2-1/8	1-1/2	1-15/16	1-11/16	1.812
M	3-1/8	1.406	2-5/16	1-1/2	2-3/16	1-7/8	2.000
N	3-1/8	1.515	2-7/16	1-9/16	2-1/4	1-15/16	2.062
P	3-1/8	1.625	2-3/4	1-9/16	2-11/32	2-1/16	2.188
R	3-1/8	1.750	2-3/4	1-9/16	2-15/32	2-3/16	2.312
S	5-1/8	1.875	3-1/16	2-3/16	2-13/16	2-9/16	2.688
T	5-1/8	2.062	3-1/4	2-3/16	2-31/32	2-3/4	2.875
V	5-1/8	2.187	3-3/8	2-3/16	3-3/32	2-7/8	3.000
W	5-1/8	2.312	3-1/2	2-3/16	3-9/32	3.00	3.125
X	5-1/8	2.500	3-7/8	2-3/16	3-7/16	3-1/8	3.250
Y	5-1/8	2.609	3-7/8	2-3/16	3-9/16	3-1/4	3.375
Z	5-1/8	2.781	3-15/16	2-3/16	3-3/4	3-7/16	3.562
AA	6-7/8	2.875	4-1/8	3-1/8	3-7/8	3-5/8	3.750
BB	6-7/8	3.157	4-1/2	3-1/8	4-1/8	3-7/8	4.000



# STUFFING TUBES

## M24235/13 STUFFING TUBE ASSEMBLY

For electric cable penetration of cast enclosures.  
 TYPE 21 ALUM. - TYPE 22B BRASS - TYPE 22S STEEL - NO SYMBOL ASSIGNED



CATALOG NUMBERING SYSTEM M24235/13 STUFFING TUBE SAMPLE CATALOG NUMBER:

13-A-ST

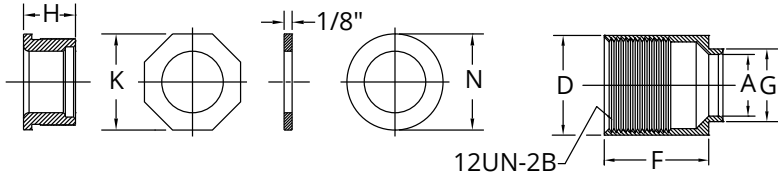
"ST" INDICATES STEEL  
 "AL" INDICATES ALUMINUM  
 "BR" INDICATES BRASS  
 INDICATES LETTER SIZE OF TUBE  
 INDICATES "TYPE" OF TUBE

(OTHER MATERIALS AVAILABLE)								
SIZE	X	G	A	D	NPT	N	H	K
A	1/2	1-3/8	.406	1-1/8	3/8-18	3/4	1-1/8	1-1/32
B	5/8	1-3/8	.515	1-1/4	1/2-14	7/8	1-1/8	1-1/8
C	5/8	1-3/8	.640	1-3/8	3/4-14	1.00	1-1/8	1-1/4
D	5/8	1-3/8	.750	1-1/2	3/4-14	1-1/8	1-1/8	1-3/8
E	5/8	1-3/8	.812	1-1/2	3/4-14	1-1/8	1-1/8	1-3/8
EE	3/4	1-3/8	.812	1-1/2	1-11-1/2	1-1/8	1-1/8	1-3/8
F	3/4	1-3/8	.843	1-9/16	1-11-1/2	1-3/16	1-1/4	1-7/16
G	3/4	1-3/8	.953	1-13/16	1-11-1/2	1-3/8	1-1/4	1-21/32
J	13/16	1-3/8	1.062	1-15/16	1-1/4-11-1/2	1-1/2	1-1/4	1-25/32
K	13/16	1-11/16	1.171	2-1/16	1-1/4-11-1/2	1-5/8	1-1/4	1-7/8
L	13/16	1-11/16	1.265	2-1/8	1-1/4-11-1/2	1-11/16	1-5/16	1-15/16
M	13/16	1-11/16	1.406	2-3/8	1-1/2-11-1/2	1-7/8	1-5/16	2-3/16
N	13/16	1-11/16	1.515	2-7/16	1-1/2-11-1/2	1-15/16	1-5/16	2-1/4
P	13/16	1-11/16	1.625	2-9/16	2-11-1/2	2-1/16	1-11/16	2-11/32
R	13/16	1-11/16	1.750	2-11/16	2-11-1/2	2-3/16	1-3/4	2-15/32
S	13/16	2-1/2	1.875	3-1/16	2-11-1/2	2-9/16	1-3/4	2-13/16
T	1-1/16	2-1/2	2.062	3-1/4	2-1/2-8	2-3/4	1-3/4	2-31/32
V	1-1/16	2-1/2	2.187	3-3/8	2-1/2-8	2-7/8	1-3/4	3-3/32
W	1-3/16	2-1/2	2.312	3-9/16	3-8	3.00	1-3/4	3-9/32
X	1-3/16	2-1/2	2.500	3-3/4	3-8	3-1/8	1-3/4	3-7/16
Y	1-3/16	2-1/2	2.609	3-7/8	3-8	3-1/4	1-3/4	3-9/16
Z	1-3/16	2-1/2	2.781	4-1/16	3-1/2-8	3-7/16	1-3/4	3-3/4

# STUFFING TUBES

## M24235/14 STUFFING TUBE ASSEMBLY

For electric penetration of sheet metal enclosures.  
 TYPE 51 STEEL - TYPE 51B BRASS - NO SYMBOL ASSIGNED



CATALOG NUMBERING SYSTEM M24235/14 STUFFING TUBE SAMPLE CATALOG NUMBER:

14-A-ST

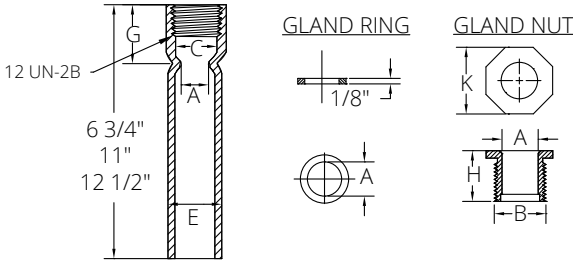
"ST" INDICATES STEEL  
 "AL" INDICATES ALUMINUM  
 "BR" INDICATES BRASS  
 INDICATES LETTER SIZE OF TUBE  
 INDICATES "TYPE" OF TUBE

(OTHER MATERIALS AVAILABLE)								
SIZE	F	A	G	D	N	H	K	12UN-2B
A	1-3/8	.406	.551	15/16	3/4	1-1/16	1-1/32	.875
B	1-3/8	.515	.660	1-1/16	7/8	1-1/16	1-1/8	1.000
C	1-3/8	.640	.785	1-3/16	1.00	1-1/16	1-1/4	1.125
D	1-3/8	.750	.895	1-5/16	1-1/8	1-1/16	1-3/8	1.250
E	1-3/8	.812	.957	1-5/16	1-1/8	1-1/16	1-3/8	1.250
F	1-3/8	.843	.988	1-3/8	1-3/16	1-1/16	1-7/16	1.312
G	1-3/8	.953	1.098	1-5/8	1-3/8	1-3/16	1-21/32	1.500
J	1-3/8	1.062	1.207	1-3/4	1-1/2	1-3/16	1-25/32	1.625
K	1-11/16	1.171	1.316	1-7/8	1-5/8	1-3/16	1-7/8	1.750
L	1-11/16	1.265	1.410	1-15/16	1-11/16	1-3/16	1-15/16	1.812
M	1-11/16	1.406	1.551	2-1/8	1-7/8	1-3/16	2-3/16	2.000
N	1-11/16	1.515	1.716	2-3/16	1-15/16	1-1/4	2-1/4	2.062
P	1-11/16	1.625	1.826	2-5/16	2-1/16	1-1/4	2-11/32	2.188
R	1-11/16	1.750	1.951	2-7/16	2-3/16	1-1/4	2-15/32	2.312
S	2-1/2	1.875	2.076	2-7/8	2-9/16	1-5/8	2-13/16	2.688
T	2-1/2	2.062	2.364	3-1/16	2-3/4	1-11/16	2-31/32	2.875
V	2-1/2	2.187	2.489	3-3/16	2-7/8	1-11/16	3-3/32	3.000
W	2-1/2	2.312	2.614	3-5/16	3.00	1-11/16	3-9/32	3.125
X	2-1/2	2.500	2.802	3-1/2	3-1/8	1-11/16	3-7/16	3.250
Y	2-1/2	2.609	2.911	3-5/8	3-1/4	1-11/16	3-9/16	3.375
Z	2-1/2	2.781	3.083	3-13/16	3-7/16	1-11/16	3-3/4	3.562
AA	3.00	2.875	3.177	4-1/16	3-5/8	2-1/16	3-7/8	3.750

# STUFFING TUBES

## M24235/17 STUFFING TUBE ASSEMBLY

For electric cable penetration of decks and bulkheads on ships with pipe protection  
 STEEL/ALUMINUM - SWAGE TYPE - SYMBOL: 1701 - 1723, 1731 - 1753, 1761 - 1783, 1791 - 1813



LARGER PENETRATION SIZE THAN M24235/18

CATALOG NUMBERING SYSTEM M24235/17 STUFFING TUBE SAMPLE CATALOG NUMBER:

1A1SC

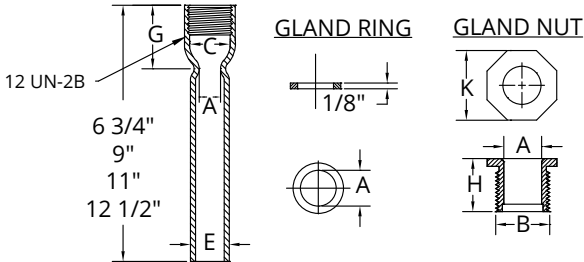
- "C" INDICATES COMPLETE WITH NUT AND WASHER
- "S" INDICATES STEEL
- "A" INDICATES ALUMINUM
- INDICATES LENGTH  
 6 = 6.75" (size a-z), 1 = 11", 2 = 12.5"
- INDICATES LETTER SIZE OF TUBE

SIZE	MOUNT HOLE	WALL THICKNESS	A	B	C	E	G	H	K
A	1-1/8	.113	.406	7/8	.767	1-1/16	1-5/8	1-1/16	1-1/32
B	1-1/8	.113	.515	1	.892	1-1/16	1-5/8	1-1/16	1-1/8
C	1-3/8	.133	.640	1-1/8	1.017	1-5/16	1-5/8	1-1/16	1-1/4
D	1-3/8	.133	.750	1-1/4	1.142	1-5/16	1-5/8	1-1/16	1-3/8
E	1-3/8	.133	.812	1-1/4	1.142	1-5/16	1-5/8	1-1/16	1-3/8
F	1-3/8	.133	.843	1-5/16	1.204	1-5/16	1-5/8	1-1/16	1-7/16
G	1-23/32	.140	.953	1-1/2	1.392	1-21/32	1-11/16	1-3/16	1-21/32
J	1-31/32	.145	1.062	1-5/16	1.517	1-29/32	1-11/16	1-3/16	1-25/32
K	1-31/32	.145	1.172	1-3/4	1.642	1-29/32	3	1-1/2	1-7/8
L	1-31/32	.145	1.265	1-13/16	1.704	1-29/32	3	1-1/2	1-15/16
M	2-7/16	.154	1.406	2	1.892	2-3/8	3	1-9/16	2-3/16
N	2-7/16	.154	1.515	2-1/16	1.954	2-3/8	3	1-9/16	2-1/4
P	2-7/16	.154	1.625	2-3/16	2.079	2-3/8	3	1-9/16	2-11/16
R	2-7/16	.154	1.750	2-5/16	2.204	2-3/8	3	1-9/16	2-15/32
S	2-15/16	.203	.875	2-11/16	2.579	2-7/8	5	2-3/16	2-13/16
T	3-9/16	.216	.062	2-7/8	2.767	3-1/2	5	2-3/16	2-31/32
V	3-9/16	.216	2.187	3	2.892	3-1/2	5	2-3/16	3-31/32
W	3-9/16	.216	2.312	3-1/8	3.017	3-1/2	5	2-3/16	3-3/32
X	3-9/16	.216	2.500	3-1/4	3.142	3-1/2	5	2-3/16	3-7/16
Y	4-1/16	.226	2.609	3-3/8	3.267	4	5	2-3/16	3-9/16
Z	4-1/16	.226	2.781	3-9/16	3.454	4	5	2-3/16	3-3/4
AA	4-1/16	.226	2.875	3-3/4	3.642	4	6-3/4	3-1/8	3-7/8
BB	4-9/16	.237	3.157	4	3.892	4-1/2	6-3/4	3-1/8	4-1/8

# STUFFING TUBES

## M24235/18 STUFFING TUBE ASSEMBLY

For electric cable penetration of decks and bulkheads on ships with pipe protection reduced penetration diameter.  
 STEEL/STAINLESS/ALUMINUM - SWAGE TYPE - SYMBOL: 1821 - 1843, 1871 - 1893, 1911 - 1933, 1941 - 1963



SMALLER PENETRATION SIZE THAN M24235/17  
 CATALOG NUMBERING SYSTEM M24235/18 STUFFING TUBE SAMPLE CATALOG NUMBER:

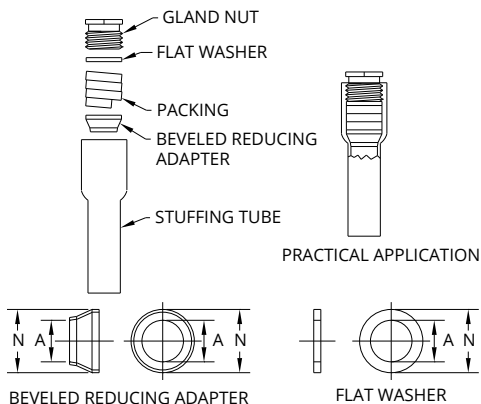
0A1SC

- └─ "C" INDICATES COMPLETE WITH NUT AND WASHER
- └─ "S" INDICATES STEEL
- └─ "A" INDICATES ALUMINUM
- └─ "SS" INDICATES STAINLESS STEEL
- └─ INDICATES LENGTH  
 6 = 6.75" (size a-r), 9 = 9" (size s-bb), 1 = 11", 2 = 12.5"
- └─ INDICATES LETTER SIZE OF TUBE  
 Size a-g available in 90 degree bends

\*INDICATES HOST TUBES

SIZE	MOUNT HOLE	WALL THICKNESS	A	B	C	E	G	H	K
A	29/32	840	0.406	7/8	.767	27/32	1-5/8	1-1/16	1-1/32
*B	29/32	840	0.515	1	.892	27/32	1-5/8	1-1/16	1-1/8
C	1-1/8	113	0.640	1-1/8	1.017	1-1/16	1-5/8	1-1/16	1-1/4
*D	1-1/8	113	0.750	1-1/4	1.142	1-1/16	1-5/8	1-1/16	1-3/8
E	1-25/64	133	0.812	1-1/4	1.142	1-21/64	1-5/8	1-1/16	1-3/8
F	1-25/64	133	0.843	1-5/16	1.204	1-21/64	1-5/8	1-1/16	1-7/16
*G	1-25/64	133	0.953	1-1/2	1.392	1-21/64	1-11/16	1-3/16	1-21/32
J	1-23/32	140	1.062	1-5/8	1.517	1-21/32	1-11/16	1-3/16	1-25/32
K	1-23/32	0.140	1.171	1-3/4	1.642	1-21/32	3	1-1/2	1-7/8
*L	1-23/32	140	1.265	1-13/16	1.704	1-21/32	3	1-1/2	1-15/16
M	1-31/32	145	1.406	2	1.892	1-29/32	3	1-1/2	2-3/16
*N	1-31/32	145	1.515	2-1/16	1.954	1-29/32	3	1-9/16	2-1/4
P	2-7/16	154	1.625	2-3/16	2.079	2-3/8	3	1-9/16	2-11/32
R	2-7/16	154	1.750	2-5/16	2.204	2-3/8	3	1-9/16	2-15/32
*S	2-7/16	154	1.875	2-11/16	2.579	2-3/8	5	2-3/16	2-13/16
T	2-15/16	203	2.062	2-7/8	2.767	2-7/8	5	2-3/16	2-31/32
V	2-15/16	203	2.187	3	2.892	2-7/8	5	2-3/16	3-3/32
*W	2-15/16	0.203	2.312	3-1/8	3.017	2-7/8	5	2-3/16	3-9/32
X	3-9/16	216	2.500	3-1/4	3.142	3-1/2	5	2-3/16	3-7/16
Y	3-9/16	216	2.609	3-3/8	3.267	3-1/2	5	2-3/16	3-9/16
Z	3-9/16	216	2.781	3-9/16	3.454	3-1/2	5	2-3/16	3-3/4
*AA	3-9/16	216	2.875	3-3/4	3.642	3-1/2	6-3/4	3-1/8	3-7/8
*BB	4-1/16	0.226	3.157	4	3.892		6-3/4	3-1/8	4-1/8

# REDUCING ADAPTER

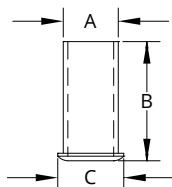
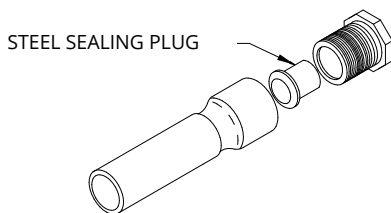


**CATALOG NUMBER CONSISTS OF ONE BEVELED REDUCING ADAPTER AND ONE FLAT WASHER  
ADDITIONAL SIZES AVAILABLE**

CATALOG# STEEL	CATALOG# ALUM	HOST TUBE	REDUCTION SIZE	N DIA	A DIA	LISTED IN EPISM
102BA	112BA	B	A	.875	.406	*
102CA	112CA	C	A	.955	.406	
102CB	112CB	C	B	.955	.515	
102DA	112DA	D	A	1.032	.406	*
102DB	112DB	D	B	1.032	.515	*
102DC	112DC	D	C	1.032	.640	*
102ED	112ED	E	D	1.080	.750	
102FC	112FC	F	C	1.080	.640	
102FD	112FD	F	D	1.142	.750	
102GB	112GB	G	B	1.360	.516	*
102GC	112GC	G	C	1.360	.640	*
102GD	112GD	G	D	1.360	.750	*
102GE	112GE	G	E	1.360	.812	*
102GF	112GF	G	F	1.360	.843	*
102JD	112JD	J	D	1.455	.750	
102KD	112KD	K	D	1.580	.750	
102KJ	112KJ	K	J	1.580	1.062	
102LD	112LD	L	D	1.703	.750	*
102LG	112LG	L	G	1.703	.953	*
102LJ	112LJ	L	J	1.703	1.062	*
102LK	112LK	L	K	1.703	1.172	*
102M K	112MK	M	K	1.830	1.172	
102M L	112ML	M	L	1.830	1.265	
102NL	112N L	N	L	1.875	1.265	*
102NM	112NM	N	M	1.875	1.406	*
102PM	112PM	P	M	2.017	1.406	
102RM	112RM	R	M	2.142	1.406	
102RN	112RN	R	N	2.142	1.515	
102SN	112SN	S	N	2.562	1.515	*
102SP	112S P	S	P	2.562	1.625	*
102SR	112S R	S	R	2.562	1.750	*
102TR	112T R	T	R	2.705	1.750	
102TS	112TS	T	S	2.705	1.875	
102W R	112WR	W	R	3.000	1.750	
102WS	112WS	W	S	3.000	1.875	*
102WT	112WT	W	T	3.000	2.062	*
102WV	112WV	W	V	3.000	2.187	*
102AAX	112AAX	AA	X	3.625	2.500	*
102AAY	112AAY	AA	Y	3.625	2.609	*
102AAZ	112AAZ	AA	Z	3.625	2.781	*

# SEALING PLUG

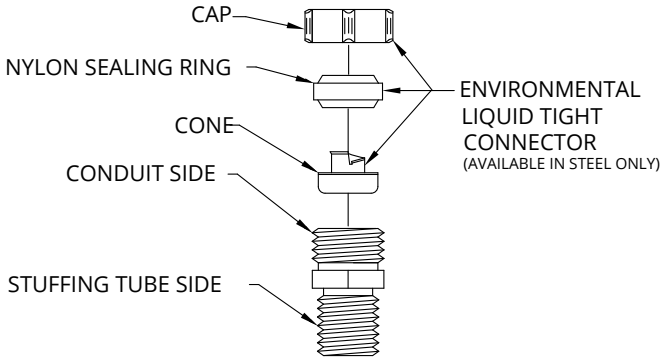
## M24235/19 STUFFING TUBE PLUG



**A SEALING PLUG IS USED WHEN DESIGN NECESSITATES ELIMINATION OF CABLE IN AN INSTALLED STUFFING TUBE**

STEEL	ALUMINUM	TUBE SIZE	C	A	B
I00AST	I00AAL	A	.71	.38	1.0
I00BST	I00BAL	B	.84	.50	1.0
I00CST	I00CAL	C	.96	.54	1.0
I00DST	I00DAL	D	1.06	.68	1.63
I00EST	I00EAL	E	1.12	.68	1.63
I00FST	I00FAL	F	1.15	.68	1.63
I00GST	I00GAL	G	1.28	.84	1.63
I00JST	I00JAL	J	1.46	1.05	1.63
I00KST	I00KAL	K	1.59	1.05	3.0
I00LST	I00LAL	L	1.68	1.05	3.0
I00MST	I00MAL	M	1.84	1.32	3.0
I00NST	I00NAL	N	1.93	1.32	3.0
I00PST	I00PAL	P	2.03	1.32	3.0
I00RST	I00RAL	R	2.15	1.66	3.0
I00SST	I00SAL	S	2.28	1.90	5.0
I00TST	I00TAL	T	2.46	1.90	5.0
I00VST	I00VAL	V	2.59	1.90	5.0
I00WST	I00WAL	W	2.71	2.38	5.0
I00XST	I00XAL	X	2.90	2.38	5.0
I00YST	I00YAL	Y	3.03	2.38	5.0
I00ZST	I00ZAL	Z	3.18	2.38	5.0
I00AAST	I00AAAL	AA	3.28	2.38	3.31

# EMI CONDUIT ADAPTER

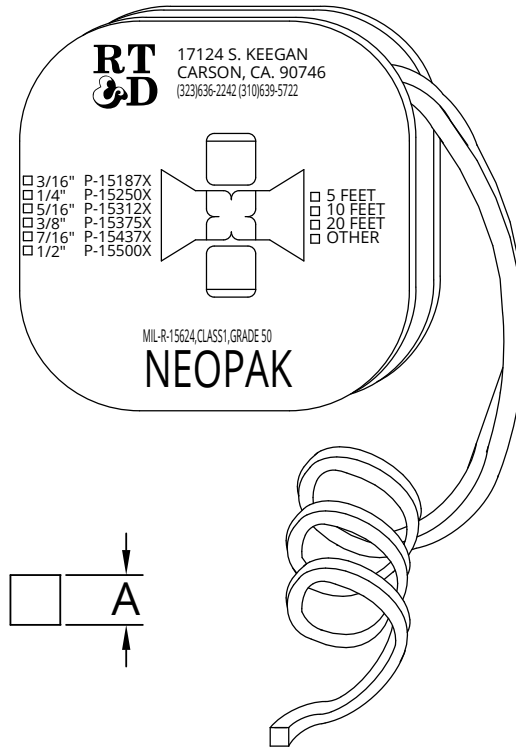


## ADDITIONAL SIZES AVAILABLE UPON REQUEST

BRASS	ALUMINUM	STAINLESS	TUBE SIZE	CONDUIT SIZE
7RTA038B	7RTA038A	7RTA038C	A	3/8"
7RTB038B	7RTB038A	7RTB038C	B	3/8"
7RTB050B	7RTB050A	7RTB050C	B	1/2"
7RTC050B	7RTC050A	7RTC050C	C	1/2"
7RTC075B	7RTC075A	7RTC075C	C	3/4"
7RTD075B	7RTD075A	7RTD075C	D	3/4"
7RTD100B	7RTD100A	7RTD100C	D	1"
7RTE075B	7RTE075A	7RTE075C	E	3/4"
7RTF100B	7RTF100A	7RTF100C	F	1"
7RTG100B	7RTG100A	7RTG100C	G	1"
7RTG125B	7RTG125A	7RTG125C	G	1-1/4"
7RTJ100B	?RTJ100A	7RTJ100C	J	1"
7RTJ125B	7RTJ125A	7RTJ125C	J	1-1/4"
7RTJ150B	7RTJ150A	7RTJ150C	J	1-1/2"
7RTK125B	7RTK125A	7RTK125C	K	1-1/4"
7RTL125B	7RTL125A	7RTL125C	L	1-1/4"
7RTM125B	7RTM125A	7RTM125C	M	1-1/4"
7RTM150B	7RTM150A	7RTM150C	M	1-1/2"
7RTM200B	7RTM200A	7RTM200C	M	2"
7RTN150B	7RTN150A	7RTN150C	N	1-1/2"
7RTN200B	7RTN200A	7RTN200C	N	2"
7RTP150B	7RTP150A	7RTP150C	P	1-1/2"
7RTP200B	7RTP200A	7RTP200C	P	2"
7RTS200B	7RTS200A	7RTS200C	S	2"
7RTW250B	7RTW250A	7RTW250C	W	2-1/2"
7RTX300B	7RTX300A	7RTX300C	X	3"
7RTAA300B	7RTAA300A	7RTAA300C	AA	3"

# NEOPAK

## PACKING FOR STUFFING TUBES



MIL-R-15624, CLASS 1, GRADE 50

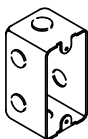
*** NO REINFORCING WIRE ***		
*** LIMITED AVAILABILITY ***		
A-DIM	NON-REINFORCED	FEET/ROLL
3/16"	P-15187X	20'
1/4"	P-15250X	10'
5/16"	P-15312X	10'
3/8"	P-15375X	10'
7/16"	P-15437X	10'
1/2"	P-15500X	5'



# **ELECTRICAL BOXES & FOUNDATIONS**



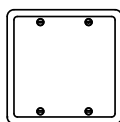
# ELECTRICAL BOXES & FOUNDATIONS



## SINGLE GANG OUTLET BOX

BX42XXXX  
COMPLIES WITH UL-514A  
COMPLIES WITH S6202-73980  
METHOD 3575 - SYMBOL: 406.2

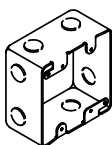
P. 6-4



## TWO GANG BOX COVERS

BX44COV4K STEEL  
BX44COVA ALUMINUM

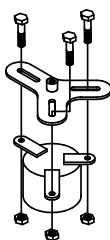
P. 6-8



## TWO GANG OUTLET BOX

BX448XXX  
COMPLIES WITH UL-514A  
COMPLIES WITH S6202-73980  
METHOD 3575 - SYMBOL: 406.1

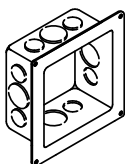
P. 6-5



## SYMBOL BOX MOUNTING BRACKET- STUD WELD

EFB00 - EFB03 STEEL  
EFB00A - EFB03A ALUMINUM

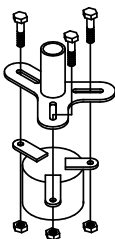
P. 6-9



## OVERSIZE JUNCTION BOX

BX552CPS STEEL

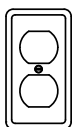
P. 6-6



## SYMBOL BOX MOUNTING BRACKET- WELD

EFW00 - EFW03 STEEL

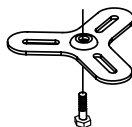
P. 6-10



## SINGLE GANG BOX COVERS

BX42COVTK STEEL BX42COVTA ALUMINUM  
BX42COVKK STEEL  
BX42COVBK STEEL BX42COVA ALUMINUM  
BX42COVDK STEEL BX42COVDA ALUMINUM

P. 6-7

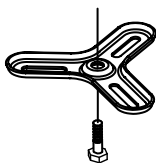


## SYMBOL BOX MOUNTING BRACKET- HEX HEAD

EFH014S - EFH024S STEEL  
EFH014C - EFH024C STAINLESS

P. 6-11

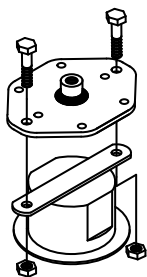
# ELECTRICAL BOXES & FOUNDATIONS



## SYMBOL BOX MOUNTING BRACKET- HEX HEAD

EFH014FS - EFH024FS STEEL  
EFH014FC - EFH024FC STAINLESS

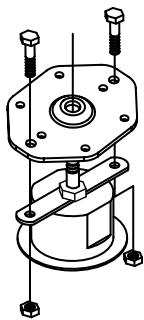
P. 6-12



## SYMBOL BOX MOUNTING BRACKET- STUD WELD

EFB04 STEEL 3/8-16 STUD  
EFB04B STEEL 1/2-13 STUD  
EFB04S STAINLESS 3/8-16 STUD  
EFB04BS STAINLESS 1/2-13 STUD

P. 6-13



## SYMBOL BOX MOUNTING BRACKET- HEX HEAD

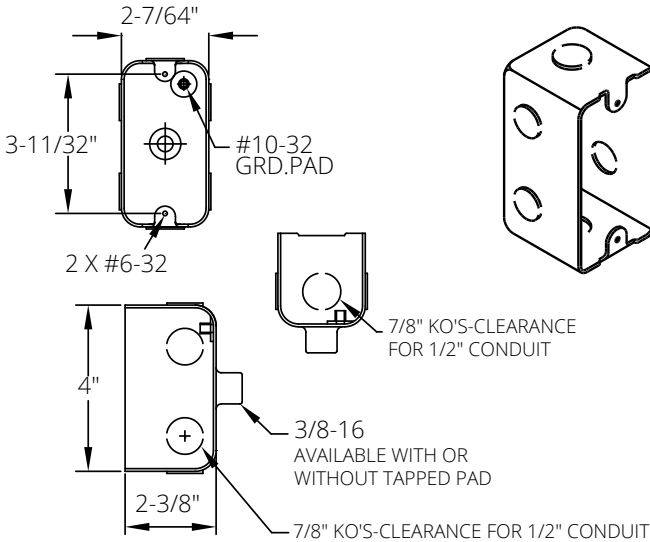
EFH044S STEEL  
EFH044C STAINLESS

P. 6-14

**ELECTRICAL BOXES &  
FOUNDATIONS**  
NOTES

# SINGLE GANG OUTLET BOX

## WITH OR WITHOUT TAPPED PAD



Drawn 2x4 rectangular utility boxes are available with welded studs for easy mounting to the ship's bulkhead. Steel boxes are electrogalvanized.

Each 7/8" inch knockout is punched outwards so no slugs will fall into the box. Mounting stud is female type, size 3/8-16. All boxes are equipped with a ground pad suitable for a #10-32 screw. A variety of stamped steel or aluminum covers are available in blank, duplex receptacle, and toggle switch configurations.

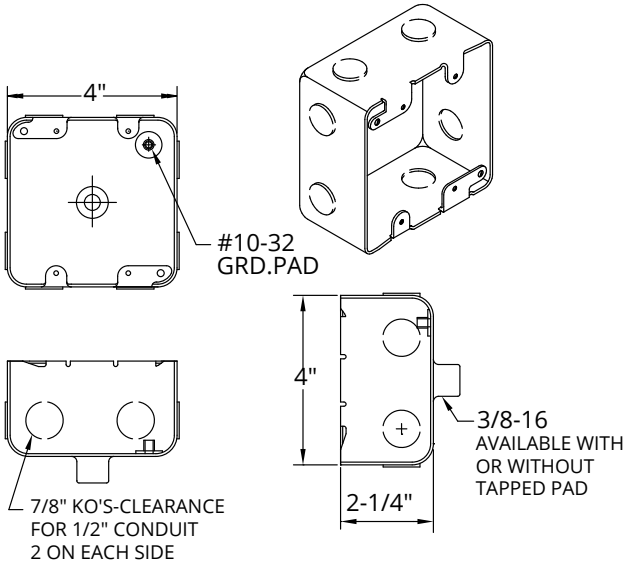
COMPLIES WITH UL-514A - SYMBOL # 406.2  
COMPLIES WITH S6202-73980 - METHOD 3575

STEEL			
PART #	# KNOCKOUTS	STUD	COVER.
BX422XXS	2		
BX422XPS	2	•	
BX422CPS	2	•	•
BX426XXI	6		
BX426XPI	6	•	

ALUMINUM			
PART #	# KNOCKOUTS	STUD	COVER.
BX422XXA	2		
BX422XPA	2	•	
BX422CPA	2	•	•

# TWO GANG OUTLET BOX

## WITH OR WITHOUT TAPPED PAD



Drawn 4x4 SQUARE utility boxes are available with welded studs for easy mounting to the ship's bulkhead. Steel boxes are electrogalvanized.

Each 7/8" inch knockout is punched outwards so no slugs will fall into the box. Mounting stud is female type, size 3/8-16. All boxes are equipped with a ground pad suitable for a #10-32 screw. A variety of stamped steel or aluminum covers are available in blank, duplex receptacle, and toggle switch configurations.

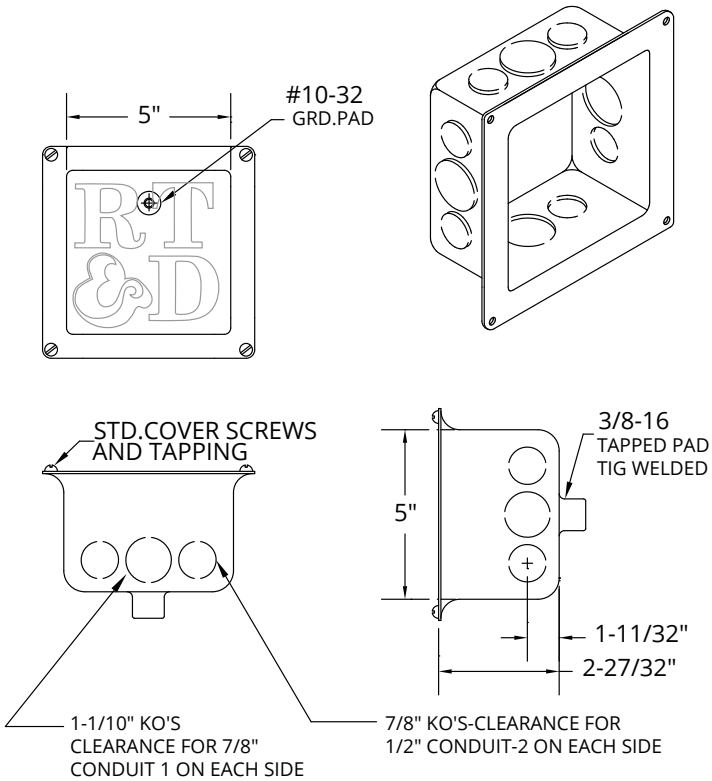
COMPLIES WITH UL-514A - SYMBOL # 406.1  
COMPLIES WITH S6202-73980 - METHOD 3575

STEEL			
PART #	# KNOCKOUTS	STUD	COVER.
BX448XXI	8		
BX448XPI	8	•	
BX448CPS	8	•	•

ALUMINUM			
PART #	# KNOCKOUTS	STUD	COVER.
BX448XPA	8	•	
BX448XXA	8		

# OVERSIZE JUNCTION BOX

## WITH TAPPED PAD AND COVER



Drawn steel 5x5 oversize square utility boxes have welded studs for easy mounting to the ship's bulkhead. Boxes are electrogalvanized.

Each 7/8" and 1-1/10" inch knockout is punched outwards so no slugs will fall into the box. Mounting stud is female type, size 3/8-16. All boxes are equipped with a ground pad suitable for a #10-32 screw. A blanked stamped steel cover is included.

### STEEL

**PART #**

**# KNOCKOUTS**

**STUD**

**COVER.**

BX552CPS

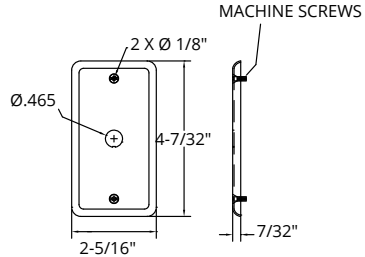
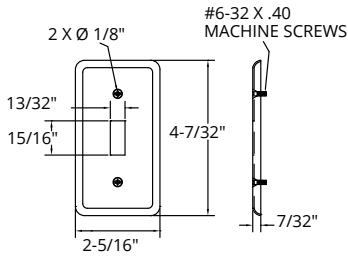
12

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•



# SINGLE GANG BOX COVER



**STEEL**

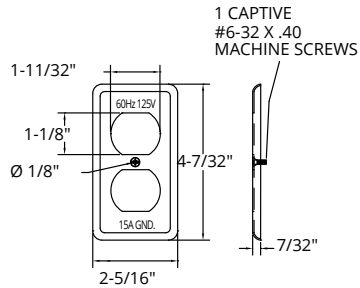
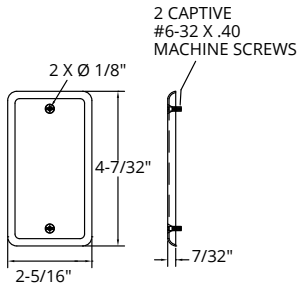
**ALUMINUM**

**STEEL**

BX42COVTK

BX42COVTA

BX42COVKK



**STEEL**

**ALUMINUM**

**STEEL**

**ALUMINUM**

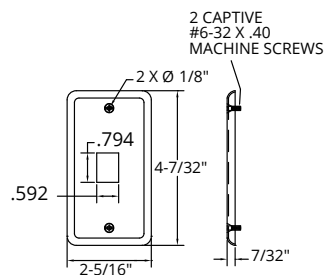
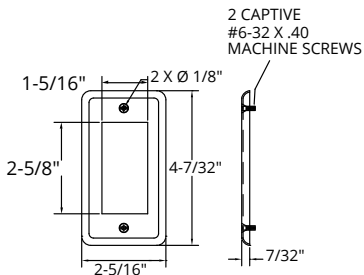
BX42COVBK

BX42COVA

BX42COVDK

BX42COVD  
NO TEXT

BX42COVDA  
NO TEXT



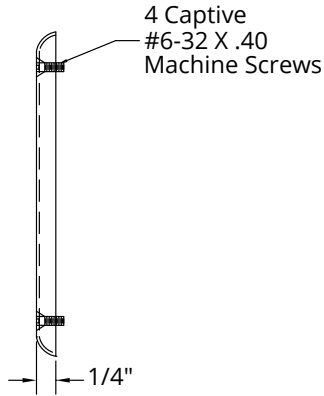
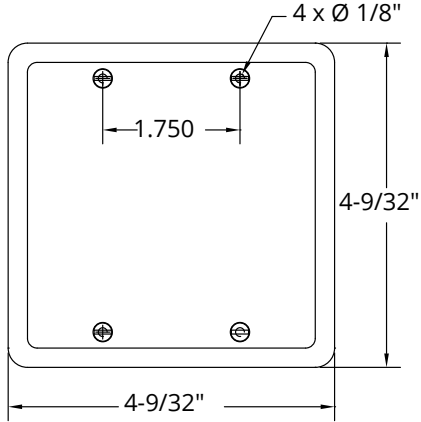
**STEEL**

**STEEL**

BX42COVG

BX42COVRJ

# TWO GANG BOX COVER



**STEEL**

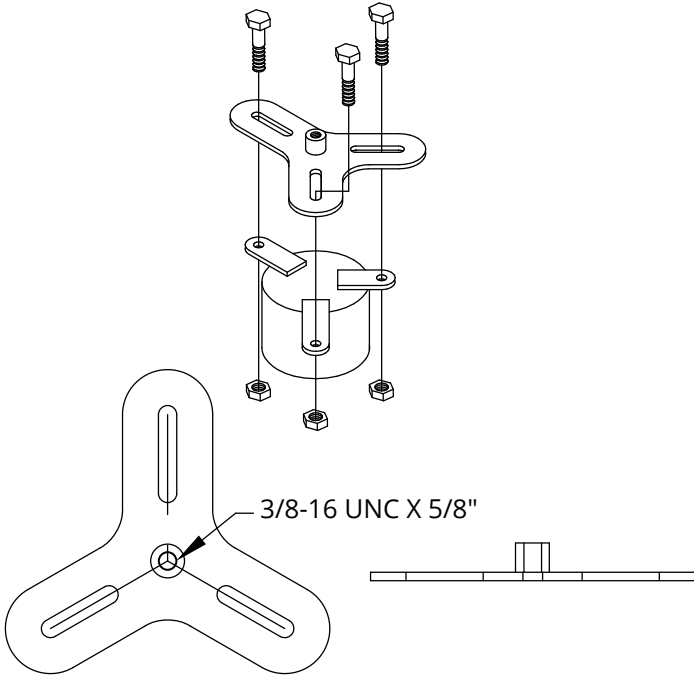
BX44COV4K

**ALUMINUM**

BX44COVA

# SYMBOL BOX MOUNTING BRACKET

## STUD WELD

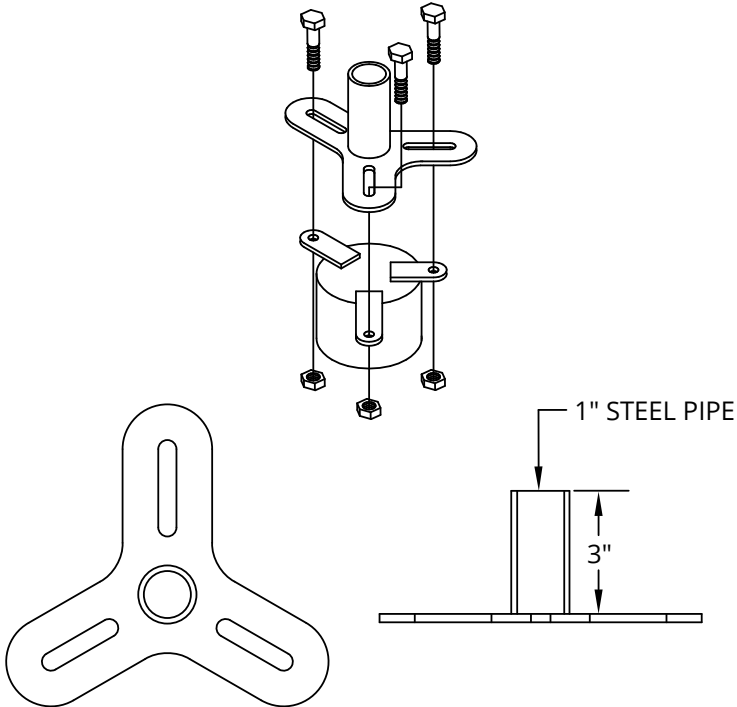


### AVAILABLE IN STEEL OR ALUMINUM

STEEL	ALUMINUM	STEEL	ALUMINUM	STEEL	ALUMINUM	STEEL	ALUMINUM
EFB00	EFB00A	EFB01	EFB01A	EFB02	EFB02A	EFB03	EFB03A
ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.
400.1		400.1	829.1	435.1	2627.3	434	
804.1		400.2	850.1	671.1	2628	915.1	
829.1		400.3	857	960	2628.1	2788	
1148.1		400.4	862	2622.1	2628.2	2788.1	
		520.1	863	2622.2	2860.1	2819.1	
		528	879.1	2622.3	2986	2819.2	
		801.2	1148.1	2626	2987	2819.3	
		804.1	1148.2	2627		2819.4	
		805.1	1148.3	2627.1			
		827.1		2627.2			

# SYMBOL BOX MOUNTING BRACKET

WELD TYPE

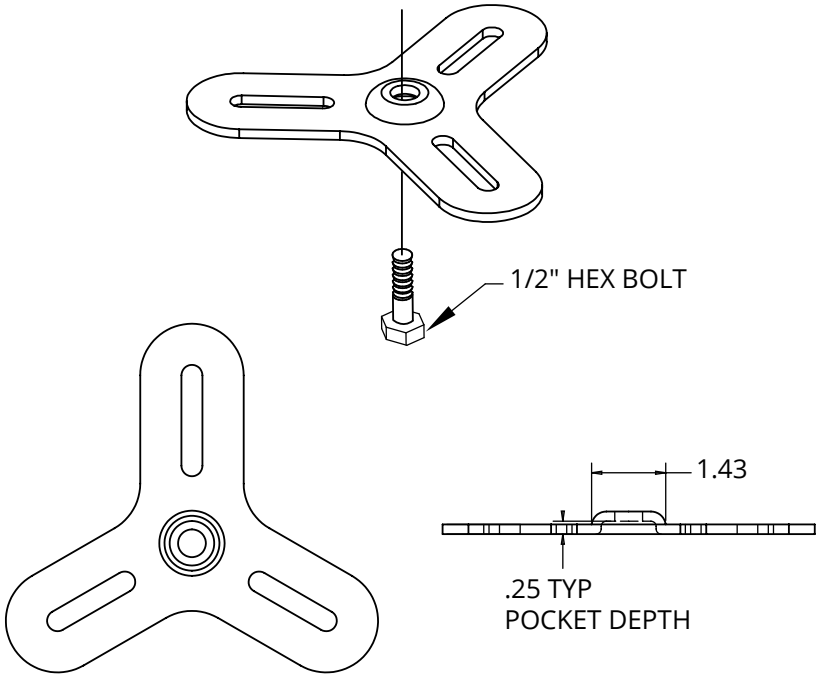


## AVAILABLE IN STEEL

EFW00	EFW01		EFW02		EFW03
ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.	ELECTRICAL SYMBOL NO.
400.1	400.1	829.1	435.1	2627.3	434
804.1	400.2	850.1	671.1	2628	915.1
829.1	400.3	857	960	2628.1	2788
1148.1	400.4	862	2622.1	2628.2	2788.1
	520.1	863	2622.2	2860.1	2819.1
	528	879.1	2622.3	2986	2819.2
	801.2	1148.1	2626	2987	2819.3
	804.1	1148.2	2627		2819.4
	805.1	1148.3	2627.1		
	827.1		2627.2		

# SYMBOL BOX MOUNTING BRACKET

HEX HEAD MOUNT

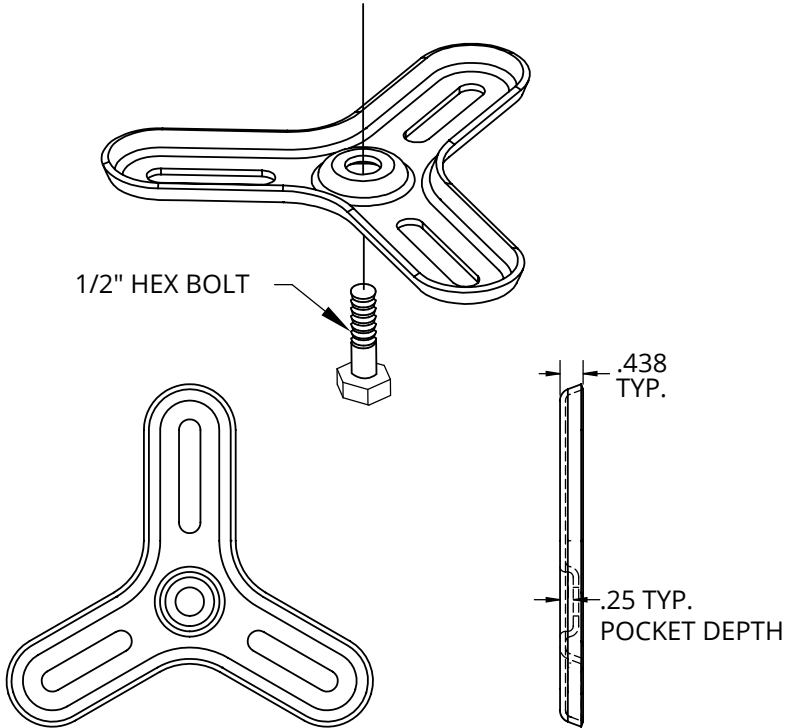


## AVAILABLE IN STEEL

STEEL	STAINLESS	STEEL	STAINLESS
EFH014S	EFH014C	EFH024S	EFH024C
ELECTRICAL SYMBOL NO		ELECTRICAL SYMBOL NO	
400.1	829.1	435.1	2627.3
400.2	850.1	671.1	2628
400.3	857	960	2628.1
400.4	862	2622.1	2628.2
520.1	863	2622.2	2860.1
528	879.1	2622.3	2986
801.2	1148.1	2626	2987
804.1	1148.2	2627	
805.1	1148.3	2627.1	
827.1		2627.2	

# SYMBOL BOX MOUNTING BRACKET

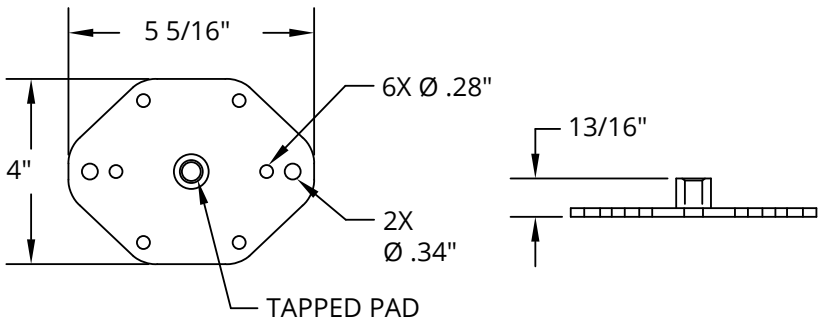
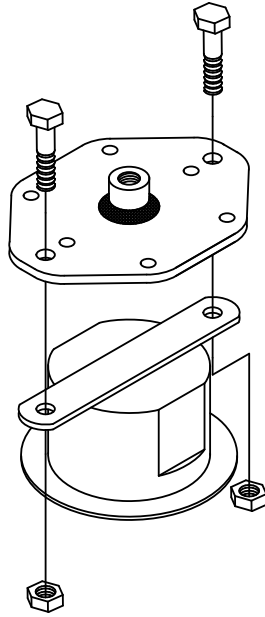
HEX HEAD MOUNT



AVAILABLE IN STEEL			
STEEL	STAINLESS	STEEL	STAINLESS
EFH014FS	EFH014FC	EFH024FS	EFH024FC
ELECTRICAL SYMBOL NO		ELECTRICAL SYMBOL NO	
400.1	829.1	435.1	2627.3
400.2	850.1	671.1	2628
400.3	857	960	2628.1
400.4	862	2622.1	2628.2
520.1	863	2622.2	2860.1
528	879.1	2622.3	2986
801.2	1148.1	2626	2987
804.1	1148.2	2627	
805.1	1148.3	2627.1	
827.1		2627.2	

# SYMBOL BOX MOUNTING BRACKET

STUD WELD



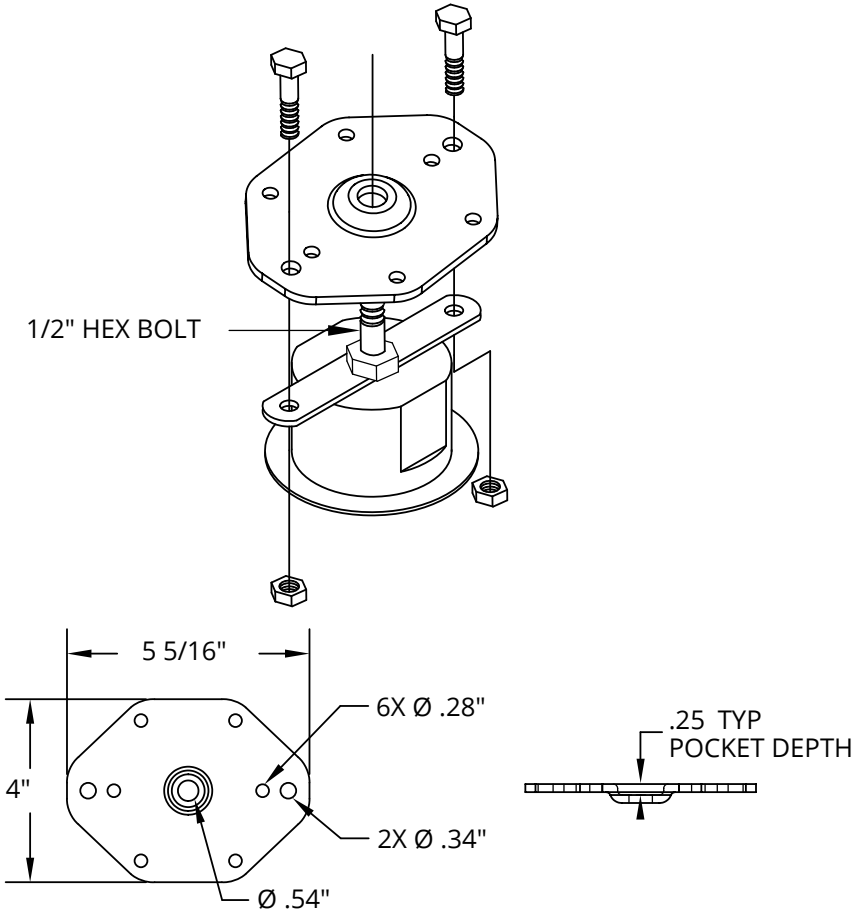
**AVAILABLE IN STEEL OR STAINLESS**

STEEL		STAINLESS	
3/8-16 STUD	1/2-13 STUD	3/8-16 STUD	1/2-13 STUD
EFB04	EFB04B	EFB04S	EFB04SB
ELECTRICAL SYMBOL NO			

789 | 1099.1 | 2816.1 | 2816.2 | 2816.2 | 2841 | 2842

# SYMBOL BOX MOUNTING BRACKET

HEX HEAD MOUNT



AVAILABLE IN STEEL OR STAINLESS

STEEL

EFH044S

STAINLESS

EFH044C

ELECTRICAL SYMBOL NO

789

1099.1

2816.1

2816.2

2816.2

2841

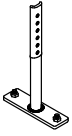
2842



# **LIGHT SUPPORTS & FOUNDATIONS**



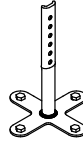
# LIGHT SUPPORTS & FOUNDATIONS



## LIGHT STOOL LEG WELD STUD TYPE

EF10B\*\*S - EF60B\*\*S STEEL

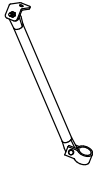
P. 7-4



## LIGHT STOOL LEG WELD STUD TYPE

EF70B\*\*S STEEL

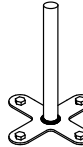
P. 7-10



## LEG SUPPORT BOLT ON BRACE

EFBB24SA - EFBB36SA STEEL

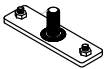
P. 7-5



## LIGHT STOOL LEG WELD TYPE

EF70W\*\*S STEEL  
EF70W\*\*A ALUMINUM

P. 7-11



## LIGHT FEET ADJUSTABLE TYPE

EF10M - EF60M STEEL

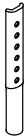
P. 7-6



## BATTLE LANTERN BRACKET

BL675 STEEL

P. 7-12



## HANGER LEG HEAVY DUTY

EF5112B - EF5148B 1" PIPE THREAD STEEL  
EF5212B - EF5248B 5/8-11 UNC STEEL

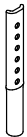
P. 7-7



## FOUNDATION PANEL MOUNT

EFPM03 - EFPM09 3/8" HOLE STEEL  
EFPM031 - EFPM091 1/2" HOLE STEEL

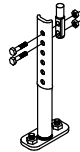
P. 7-13



## HANGER LEG LIGHT DUTY

SPB10S - SPB36S STEEL

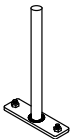
P. 7-8



## LIGHT LEG WELD STUD TYPE & WELD ON TYPE

EFP1B09S - EFP1BW48S STEEL  
EFP2B09S - EFP2BW48S STEEL

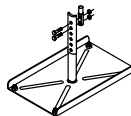
P. 7-14



## LIGHT STOOL LEG WELD TYPE

EF10W\*\*S - EF60W\*\*S STEEL  
EF10W\*\*A - EF60W\*\*A ALUMINUM

P. 7-9

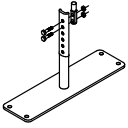


## LIGHT LEG DRIPPROOF FLOURESCENT

EFP3B09S - EFP3B48S STEEL 90 DEGREE  
EFP3B09S4 - EFP3B48S4 STEEL 45 DEGREE

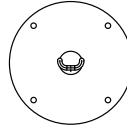
P. 7-15

# LIGHT SUPPORTS & FOUNDATIONS



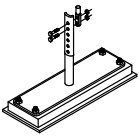
## LIGHT LEG WELD STUD TYPE

EFP5B07S - EFP5B30S STEEL  
P. 7-16



## LIGHT LEG

EF52B09S - EF52B24S STEEL  
P. 7-21



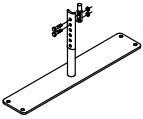
## LIGHT LEG CARGO/GARAGE LIGHT

EFP6B07S - EFP6B48S 90 DEGREE STEEL  
EFP6B07S4 - EFP6B48S4 45 DEGREE STEEL  
P. 7-17



## TRIANGLE LIGHT FOOT

EF10B7 - EF50B7 STEEL  
P. 7-22



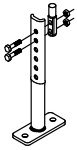
## LIGHT LEG

EFG5B09S - EFG5B48S 90 DEGREE STEEL  
EFG5B09S4 - EFG5B48S4 45 DEGREE STEEL  
P. 7-18



## LIGHT LEG

RTS7-04 - RTS7-39 STEEL  
P. 7-23



## LIGHT LEG

EFL1B0225S - EFL1B1200S 90 DEGREE STEEL  
EFL1B0225S4 - EFL1B1200S4 45 DEGREE STEEL  
P. 7-19



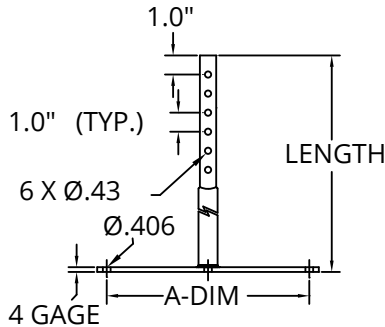
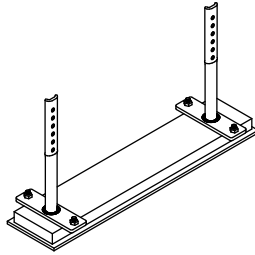
## LIGHT LEG

EF51B09S - EF51B24S STEEL  
P. 7-20

**LIGHT SUPPORTS &  
FOUNDATIONS**  
NOTES

# LIGHT STOOL LEG

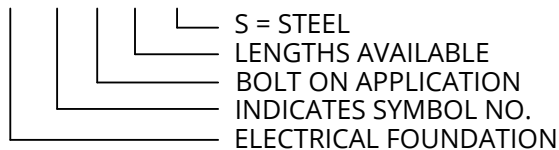
WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM  
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 B \*\* S

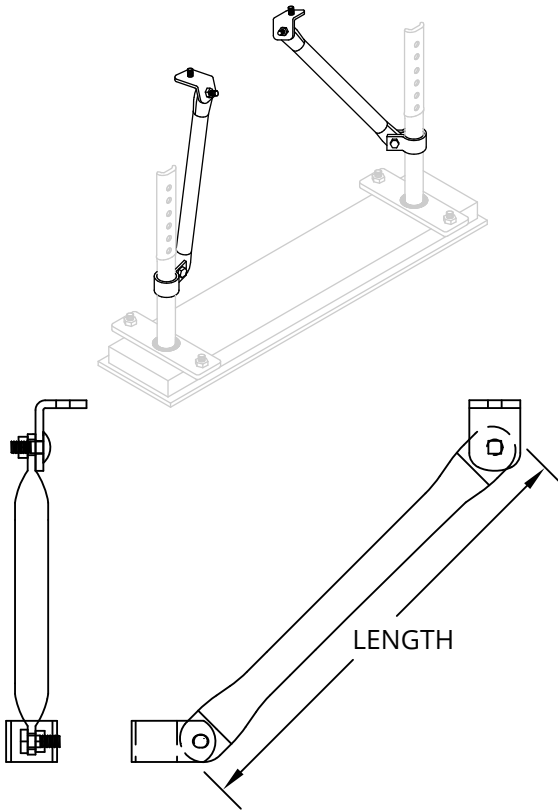


AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"

PART NUMBER	SYMBOL NUMBER	A-DIM
EF10B**S	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20B**S	73.3, 77.4, 145.2, 149.2, 344	7-1/4"
EF30B**S	333.1, 341.1, 342	9-1/4"
EF40B**S	348	11"
EF50B**S	74, 75	13"
EF60B**S	349, 350	15-1/2"

# LEG SUPPORT

BOLT ON BRACE



CATALOG NUMBERING SYSTEM  
(FOR EACH BRACE)

SAMPLE CATALOG NUMBER:  
EF BB \*\* S A

└─ L COMPLETE W/ANGLE AND CLIP  
└─ S = STEEL  
└─ LENGTHS AVAILABLE  
└─ BOLT ON BRACE

**ADDITIONAL LENGTHS AVAILABLE**

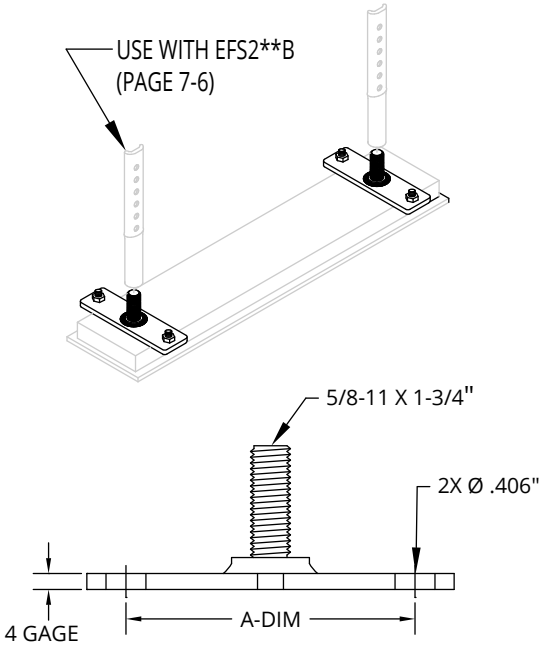
**AVAILABLE IN 24", 30", AND 36"**

**STEEL**

EFBB24SA - EFBB36SA

# LIGHT FEET

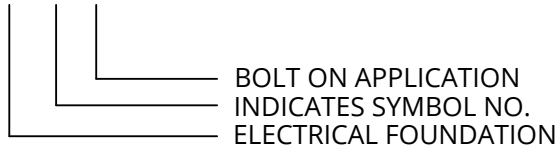
## ADJUSTABLE TYPE



CATALOG NUMBERING SYSTEM  
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 M

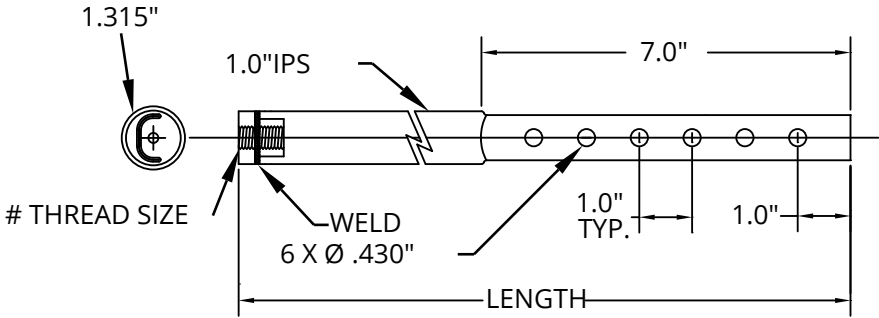
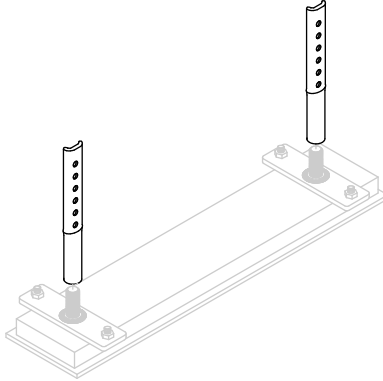


STEEL		
PART NUMBER	SYMBOL NUMBER	A-DIM
EF10M	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20M	73.3, 77.4, 145.2, 149.2, 344	7-1/4"
EF30M	333.1, 341.1, 342	9-1/4"
EF40M	348	11"
EF50M	74, 75	13"
EF60M	349, 350	15-1/2"



# HANGER LEG

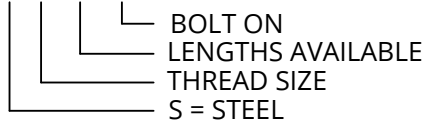
HEAVY DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF S # \*\* B



**ADDITIONAL LENGTHS AND MATERIALS AVAILABLE**

**AVAILABLE IN 6" INCREMENTS FROM 12" TO 48"**

**STEEL**

**PART NUMBER**

**THREAD SIZE**

EFS112B - EFS148B

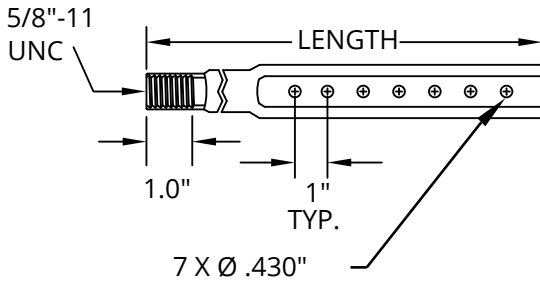
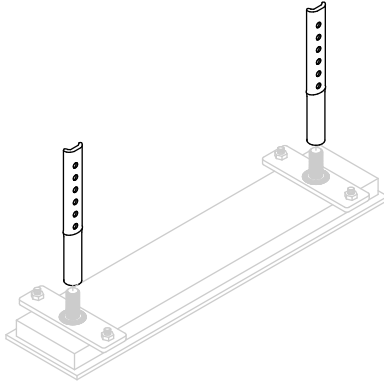
I.P.S 1.0" PIPE THREAD

EFS212B - EFS248B

5/8" - 11 U.N.C.

# HANGER LEG

LIGHT DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

SP B \*\* S

S = STEEL  
LENGTHS AVAILABLE  
BOLT ON APPLICATION  
LIGHT DUTY

**ADDITIONAL LENGTHS AVAILABLE**

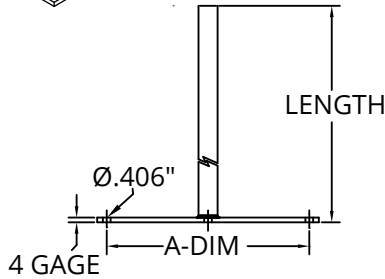
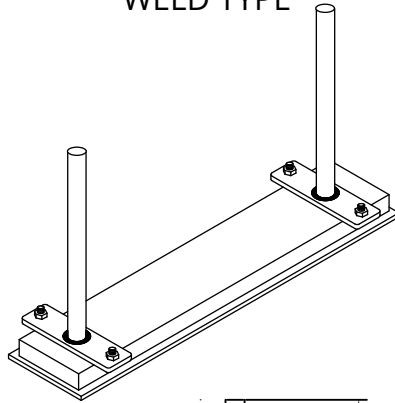
**AVAILABLE FROM 6" TO 36"**

**STEEL**

SPB06S - SPB36S

# LIGHT STOOL LEG

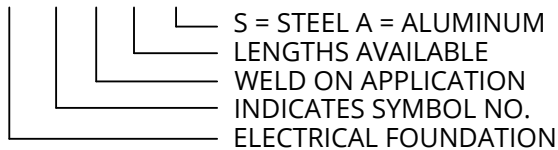
WELD TYPE



CATALOG NUMBERING SYSTEM  
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 W \*\* \*



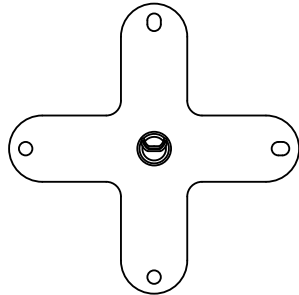
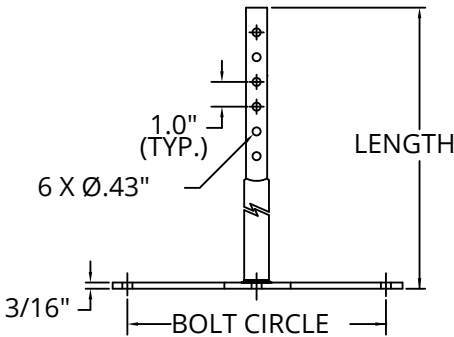
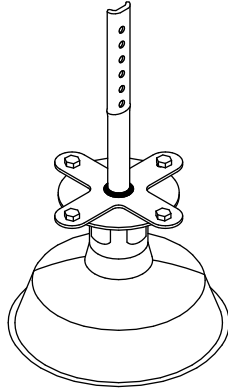
## ADDITIONAL LENGTHS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"

PART NUMBER	SYMBOL NUMBER	A-DIM
EF10W***	70.3, 79.1, 80.1, 331.1, 338.1, 347	4 3/4"
EF20W***	73.3, 77.4, 145.2, 149.2, 344	7-1/4"
EF30W***	333.1, 341.1, 342	9-1/4"
EF40W***	348	11"
EF50W***	74, 75	13"
EF60W***	349, 350	15-1/2"

# LIGHT STOOL LEG

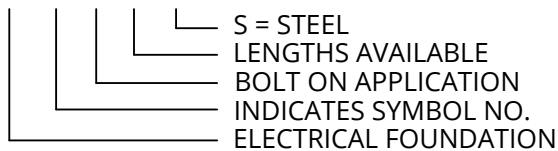
WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM  
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 70 B \*\* S



COMPLIES WITH METHOD F-2-A, COMPLIES WITH DRAWING 5184170

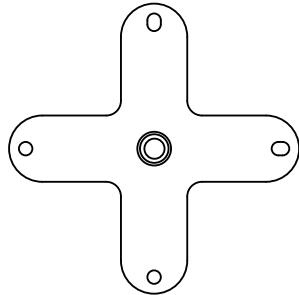
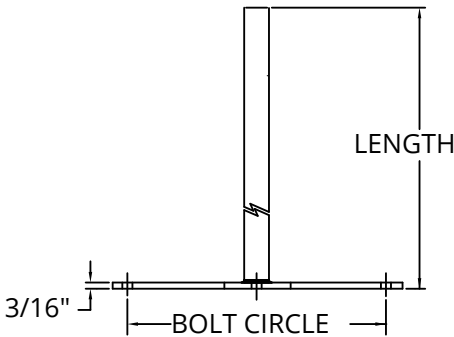
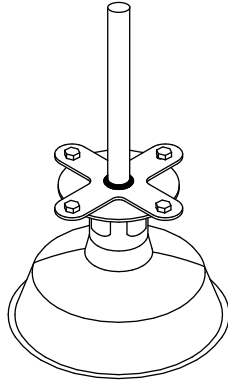
**ADDITIONAL LENGTHS AND MATERIALS AVAILABLE**

**AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"**

PART NUMBER	SYMBOL NUMBER	BOLT CIRCLE
EF70B**S	48.2, 57, 64.1, 65, 68.2, 69, 89, 90.2, 94.1, 112, 113	7 5/8"-7 3/4"

# LIGHT STOOL LEG

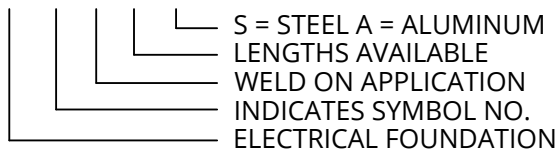
WELD TYPE



CATALOG NUMBERING SYSTEM  
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 70 W \*\* \*



COMPLIES WITH METHOD F-2-A, COMPLIES WITH DRAWING 5184170

**ADDITIONAL LENGTHS AVAILABLE**

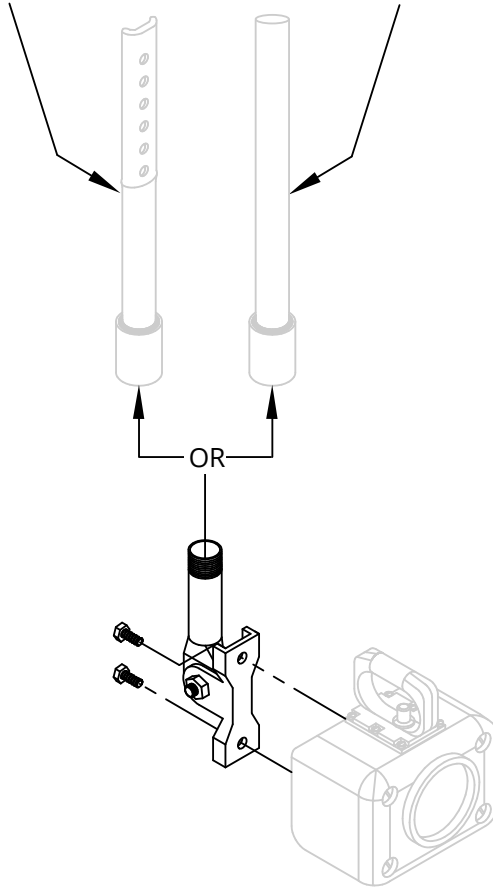
**AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"**

PART NUMBER	SYMBOL NUMBER	BOLT CIRCLE
EF70W***	48.2, 57, 64.1, 65, 68.2, 69, 89, 90.2, 94.1, 112, 113	7 5/8"-7 3/4"

# BATTLE LANTERN BRACKET

USE WITH EFS1\*\*B  
WELD STUD (BOLT ON) TYPE

USE WITH EFS1\*\*BW  
WELD TYPE



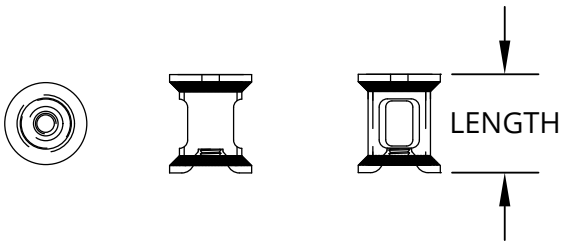
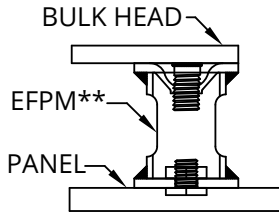
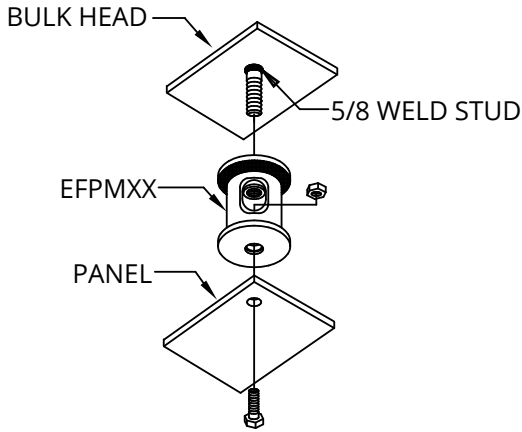
**PART NUMBER**

**STEEL**

BL675

7-12

# FOUNDATION PANEL MOUNT



AVAILABLE IN 3" - 6", 9"

STEEL

3/8" HOLE

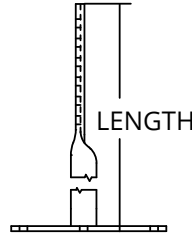
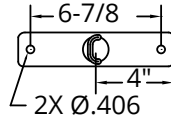
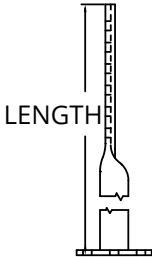
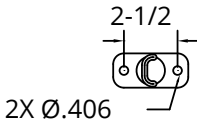
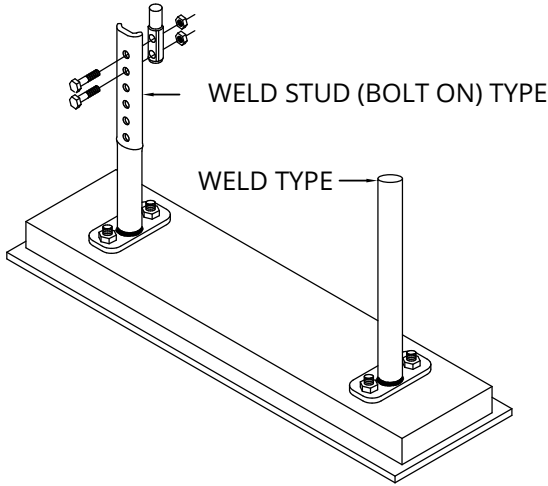
EFPM03 - EFPM09

1/2" HOLE

EFPM031 - EFPM091

# LIGHT LEG

## WELD STUD (BOLT ON) TYPE AND WELD TYPE



**AVAILABLE FROM 9" TO 48"**

### STEEL

#### 2 1/2" BOLT PATTERN

WELD STUD TYPE

WELD ON TYPE

EFP1B09S - EFP1B48S

EFP1W09S - EFP1W48S

LIGHT FIXTURE NO.

#### 6 7/8" BOLT PATTERN

WELD STUD TYPE

WELD ON TYPE

EFP2B09S - EFP2B48S

EFP2W09S - EFP2W48S

LIGHT FIXTURE NO.

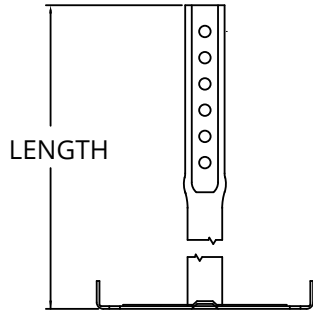
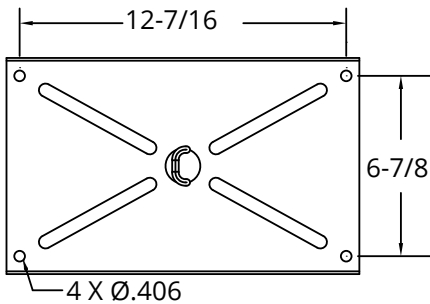
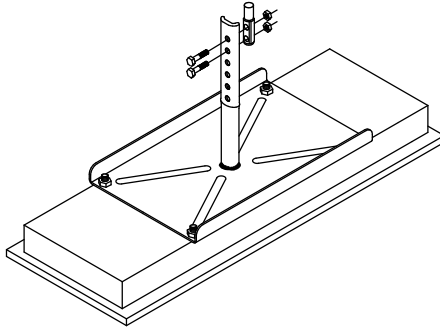
FWN120, FWN135, FWN140, FWN160, FWN220  
 FWN235, FWN240, FWN260, FWN320, FWN335  
 FWN340, FWN360, FWN1110, FWN2110  
 FWN3110, ZLXACHS10MT

FAS120, FPS120, FPS135, FPS140, FPS160  
 FPA220, FPS235, FPS240, FPS260, FPS320  
 FPS335, FPS340, FPS360



# LIGHT LEG

DRIPPROOF FLOURESCENT CEILING FIXTURES  
WELD STUD (BOLT ON) TYPE



AVAILABLE FROM 9" TO 48"

STEEL

90 DEGREE MOUNT

EFP3B09S - EFP3B48S

45 DEGREE MOUNT

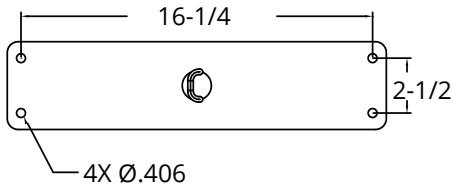
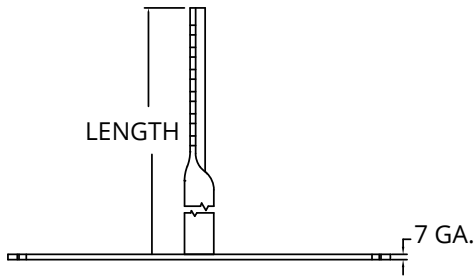
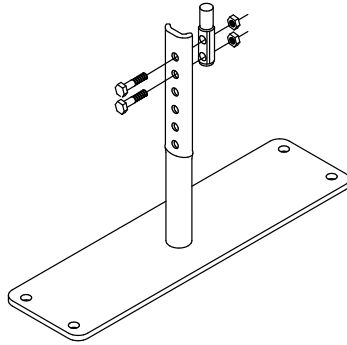
EFP3B09S4 - EFP3B48S4

LIGHT FIXTURE NO.

FAS120, FPS120, FPS135, FPS220, FPS235, FPS320, FPS335

# LIGHT LEG

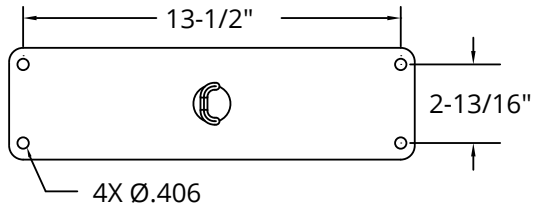
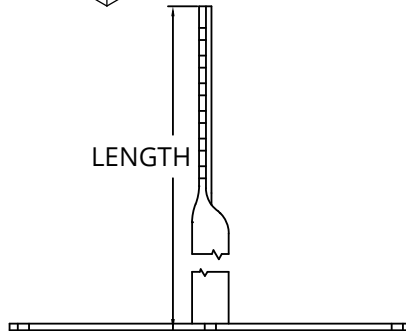
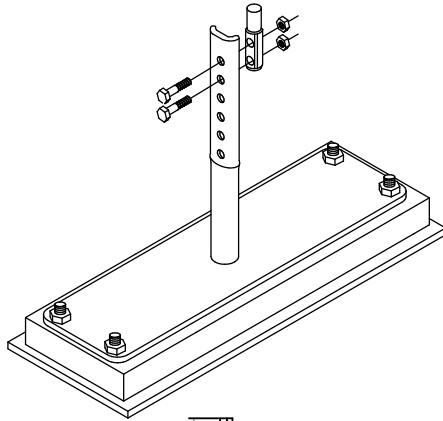
## WELD STUD (BOLT ON) TYPE



STEEL	
PART NUMBER	LENGTH
EFP5B07S	6-1/2"
EFP5B09S	8-1/2"
EFP5B12S	11-1/2"
EFP5B16S	15-1/2"
EFP5B20S	19-1/2"
EFP5B24S	23-1/2"
EFP5B30S	29-1/2"
LIGHT FIXTURE NO.	
ZLXACHS10446, ZLXACHS10446CR	

# LIGHT LEG

CARGO/GARAGE LIGHT  
WELD STUD (BOLT ON) TYPE



AVAILABLE FROM 9" TO 48"

STEEL

90 DEGREE MOUNT

EFP6B07S - EFP6B48S

45 DEGREE MOUNT

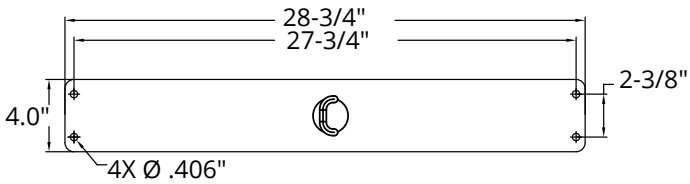
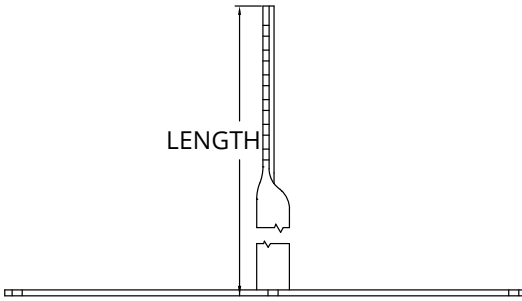
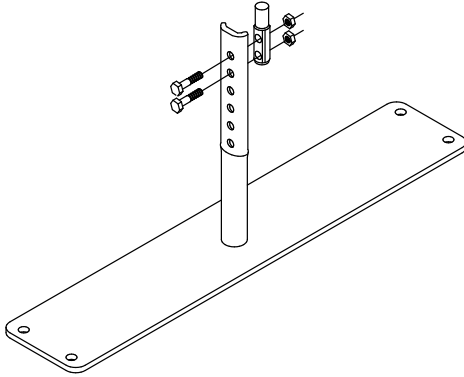
EFP6B07S4 - EFP6B48S4

LIGHT FIXTURE NO.

LXACRS10MT

# LIGHT LEG

WELD STUD TYPE



AVAILABLE IN 9", 12", 18", 24", 30", 48"

STEEL

90 DEGREE MOUNT

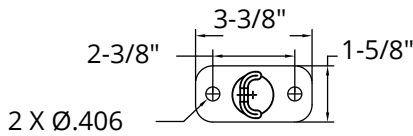
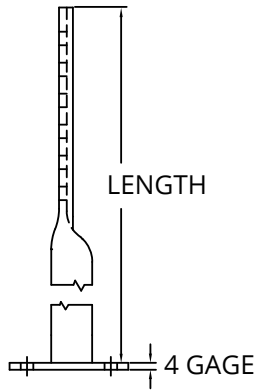
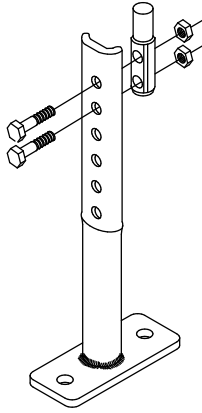
EFG5B09S - EFG5B48S

45 DEGREE MOUNT

EFG5B09S4 - EFG5B48S4

# LIGHT LEG

## WELD STUD TYPE



**ADDITIONAL LENGTHS AVAILABLE  
ALSO AVAILABLE IN IMPERICAL UNITS**

**AVAILABLE IN 225MM, 300MM, 450MM, 600MM, 750MM, 900MM, 1050MM, 1200MM**

**STEEL**

**90 DEGREE MOUNT**

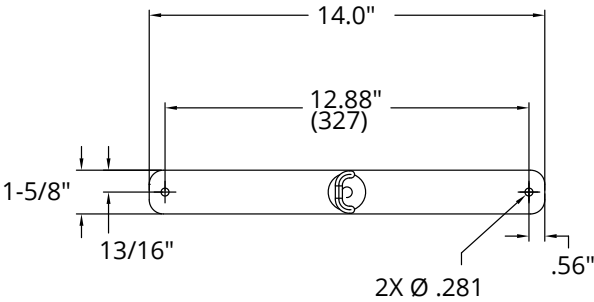
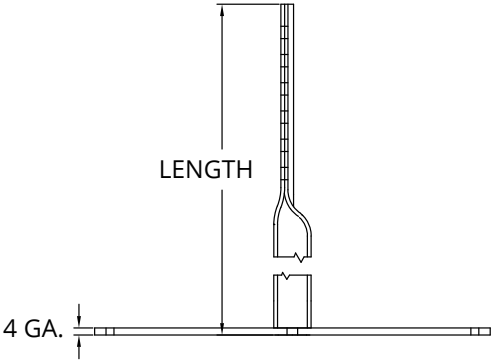
**45 DEGREE MOUNT**

EFL1B0225S - EFL1B1200S

EFL1B0225S4 - EFL1B1200S4

# LIGHT LEG

WELD STUD TYPE



AVAILABLE IN 9" AND 6" INCREMENTS FROM 12" TO 24"

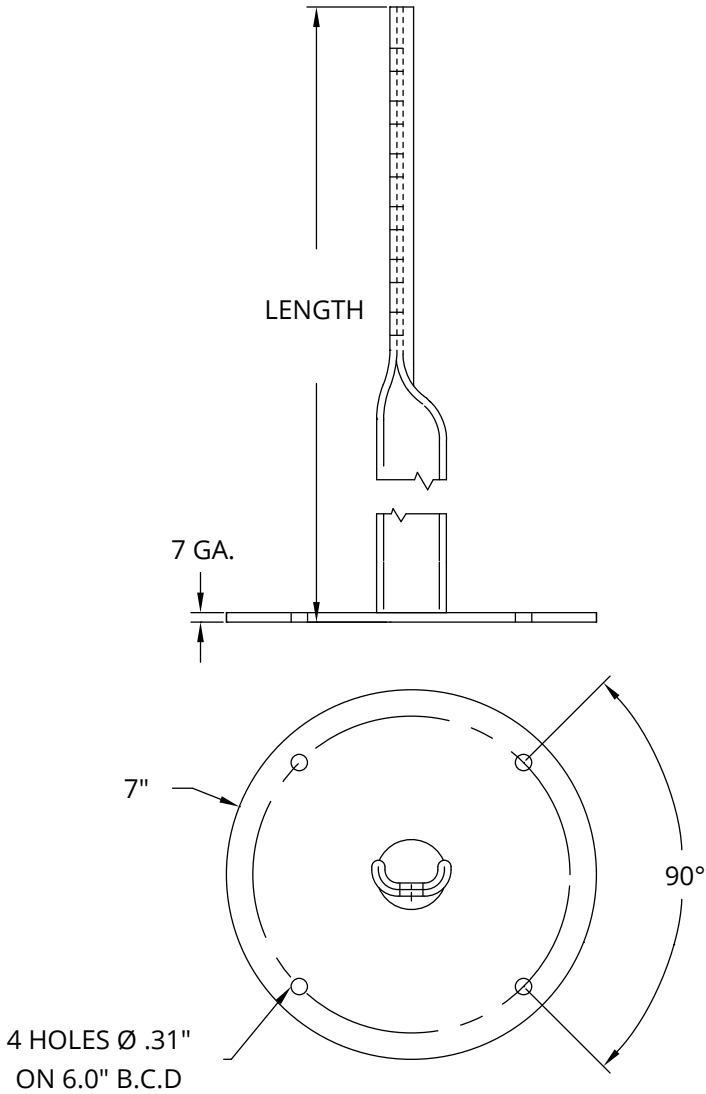
STEEL

90 DEGREE MOUNT

EF51B09S - EF51B24S

# LIGHT LEG

WELD STUD TYPE



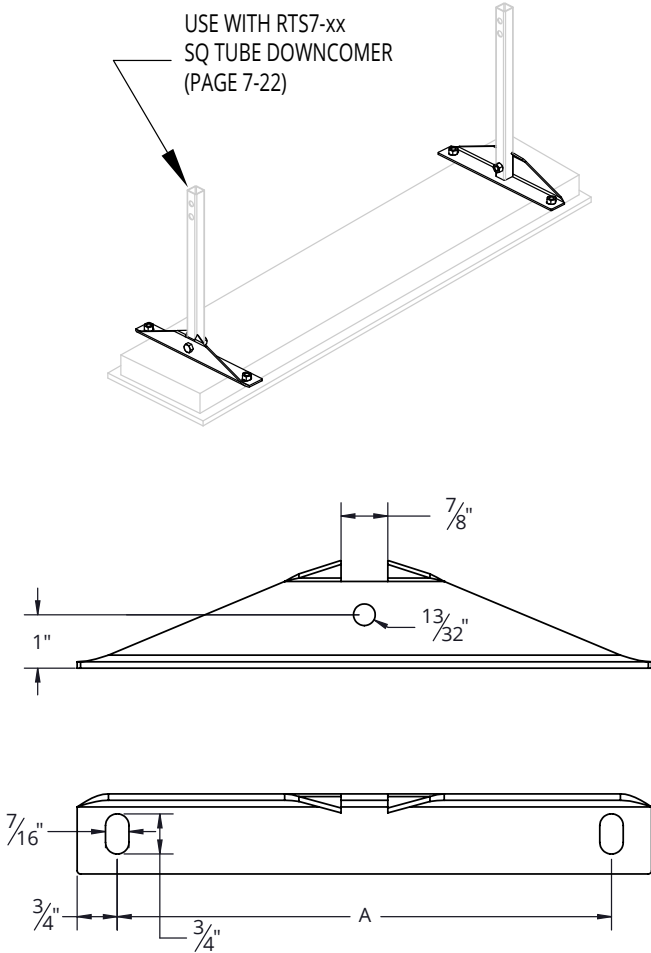
AVAILABLE IN 9" AND 6" INCREMENTS FROM 12" TO 24"

STEEL

90 DEGREE MOUNT

EF52B09S - EF52B24S

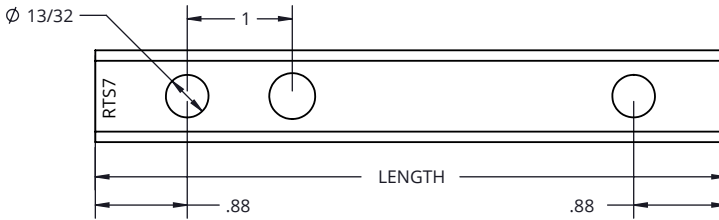
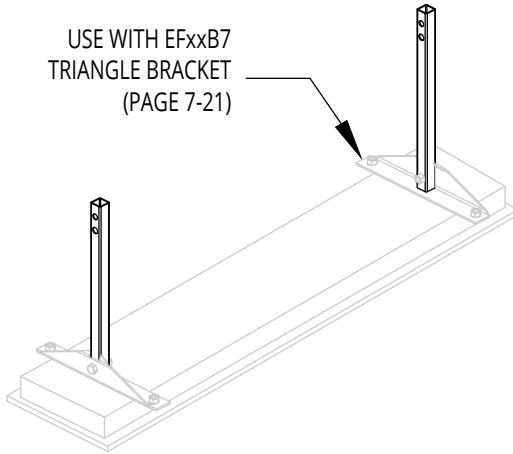
# TRIANGLE LIGHT FOOT



STEEL		
PART NUMBER	SYMBOL NUMBER	A-DIM
EF10B7	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20B7	73.3, 77.4, 145.2, 149.2, 344	7-1/4"
EF30B7	333.1, 341.1, 342	9-1/4"
EF50B7	74, 75	13"



# SQUARE TUBE LIGHT LEG



AVAILABLE IN 1" INCREMENTS FROM 4" TO 39"

STEEL

PART NUMBER

LENGTH

RTS7-04 - RTS7-39

4" TO 39"



# **EMI BONDING HARDWARE**



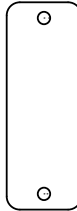
# EMI BONDING HARDWARE



## EMI CONDUIT ADAPTER

7RTA××B - 7RTNA××B BRASS  
7RTA××A - 7RTNA××A ALUMINUM  
7RTA××C - 7RTNA××C STAINLESS

P. 8-3



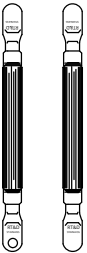
## BOND STRAPS

MIL-DTL-24749 REV A  
TYPE II AND  
TYPE III

MIL-STD-1310 REV E  
TYPE III

T203 - T212 STAINLESS  
T303 - T312 COPPER

P. 8-7



## BOND STRAPS

MIL-STD-1310 REV E  
TYPE I AND TYPE II

T1A06A - T1A18A BOTH LUGS ALUMINUM  
T1A06S - T1A18S 1 LUG ALUMINUM / 1 LUG STAINLESS  
T1S06S - T1S18S BOTH LUGS STAINLESS

P. 8-4



## BOND STRAPS MIL-STD-1310 REV E EMI SILENCER

SST-8316, SST-8315 STAINLESS  
SSA-8316, SSA-8315 ALUMINUM

P. 8-5



## BOND STRAPS MIL-DTL-24749 REV A TYPE 1

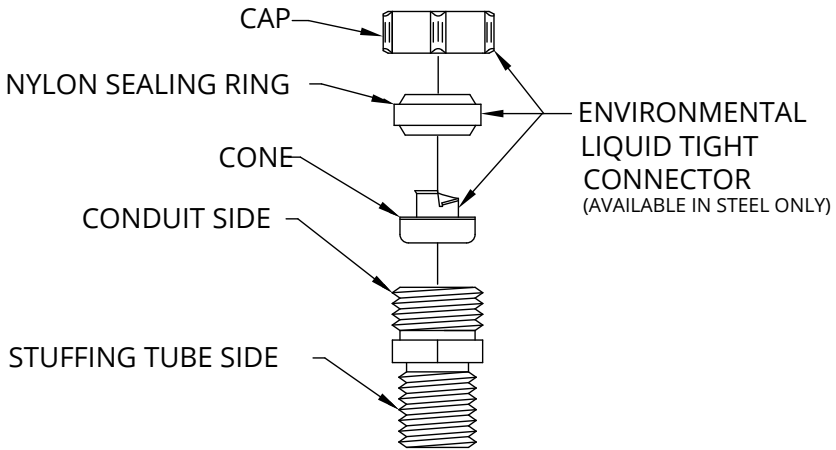
T1GXX STRAP STAINLESS  
T1GCB BOSS BIMETALLIC  
T1GCC BOSS STAINLESS  
T1GXCC - T1GXBB ASSEMBLY

P. 8-6

# **EMI BONDING HARDWARE**

## **NOTES**

# EMI CONDUIT ADAPTER



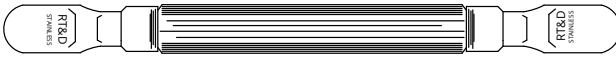
**MIL-STD-1310E**  
**ADDITIONAL SIZES AVAILABLE UPON REQUEST**

BRASS	ALUMINUM	STAINLESS	TUBE SIZE	CONDUIT SIZE
7RTA038B	7RTA038A	7RTA038C	A	3/8"
7RTB038B	7RTB038A	7RTB038C	B	3/8"
7RTB050B	7RTB050A	7RTB050C	B	1/2"
7RTC050B	7RTC050A	7RTC050C	C	1/2"
7RTC075B	7RTC075A	7RTC075C	C	3/4"
7RTD075B	7RTD075A	7RTD075C	D	3/4"
7RTD100B	7RTD100A	7RTD100C	D	1"
7RTE075B	7RTE075A	7RTE075C	E	3/4"
7RTF100B	7RTF100A	7RTF100C	F	1"
7RTG100B	7RTG100A	7RTG100C	G	1"
7RTG125B	7RTG125A	7RTG125C	G	1-1/4"
7RTJ100B	7RTJ100A	7RTJ100C	J	1"
7RTJ125B	7RTJ125A	7RTJ125C	J	1-1/4"
7RTJ150B	7RTJ150A	7RTJ150C	J	1-1/2"
7RTK125B	7RTK125A	7RTK125C	K	1-1/4"
7RTL125B	7RTL125A	7RTL125C	L	1-1/4"
7RTM125B	7RTM125A	7RTM125C	M	1-1/4"
7RTM150B	7RTM150A	7RTM150C	M	1-1/2"
7RTM200B	7RTM200A	7RTM200C	M	2"
7RTN150B	7RTN150A	7RTN150C	N	1-1/2"
7RTN200B	7RTN200A	7RTN200C	N	2"
7RTP150B	7RTP150A	7RTP150C	P	1-1/2"
7RTP200B	7RTP200A	7RTP200C	P	2"
7RTS200B	7RTS200A	7RTS200C	S	2"
7RTW250B	7RTW250A	7RTW250C	W	2-1/2"
7RTX300B	7RTX300A	7RTX300C	X	3"
7RTAA300B	7RTAA300A	7RTAA300C	AA	3"

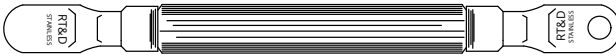
# BOND STRAPS

MIL-STD-1310 REV E

TYPE I AND TYPE II



TYPE I  
NO HOLE



TYPE II  
ONE HOLE



CATALOG NUMBERING SYSTEM MIL-STD-1310 REV E  
TYPE 1 AND TYPE 2 BONDING STRAP

T1 A 10 S

(HOLE IN THIS END)

"S" INDICATES STAINLESS

"A" INDICATES ALUMINUM

LENGTH OF STRAP

"S" INDICATES STAINLESS

"A" INDICATES ALUMINUM

T1 INDICATES TYPE I - NO HOLE

T2 INDICATES TYPE II - ONE HOLE

**BOND STRAPS ARE MADE WITH TRXF84 CABLE  
ADDITIONAL LENGTHS AVAILABLE**

**AVAILABLE FROM 6" TO 18"**

**BOTH LUGS ALUMINUM**

**1 ALUMINUM / 1 STAINLESS**

**BOTH LUGS STAINLESS**

T1A06A - T2A18A

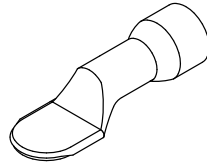
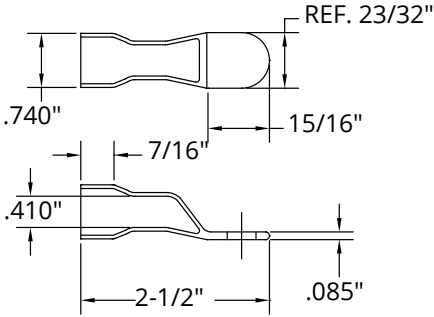
T1A06S - T2A18S

T1S06S - T2S12S



# BOND STRAPS

MIL-STD-1310 REV E  
EMI SILENCER

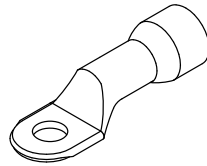
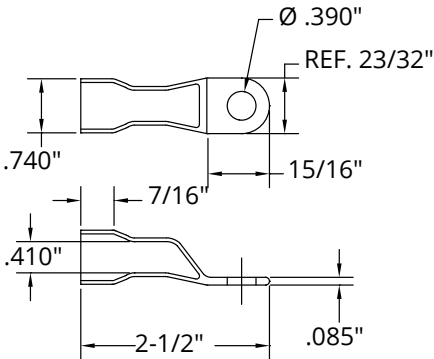


**STAINLESS - NO HOLE**

SST-8316

**ALUMINUM - NO HOLE**

SSA-8316



**STAINLESS - WITH HOLE**

SST-8315

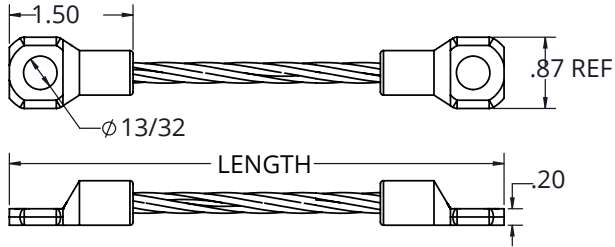
**ALUMINUM - WITH HOLE**

SSA-8315

# BOND STRAPS

MIL-DTL-24749 REV A or C

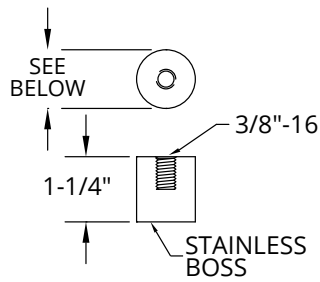
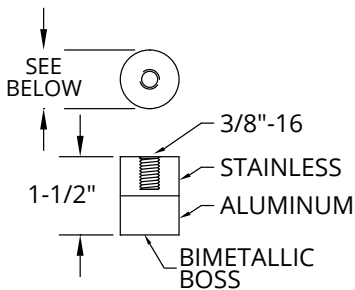
TYPE I



**AVAILABLE IN 1" INCREMENTS IN ANY LENGTH IN REV C ONLY**

**STAINLESS**

T1GXX (XX = LENGTH)



**BIMETALLIC BOSS**

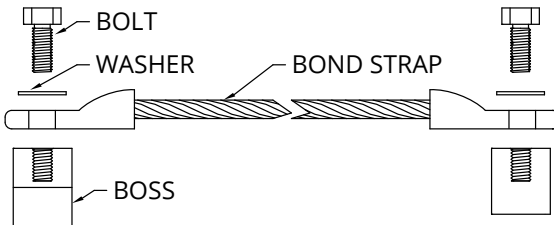
**STAINLESS BOSS**

T1GCB (REV A)-Ø3/4"

T1GCB5 (REV C)-Ø5/8"

T1GCC (REV A)-Ø3/4"

T1GCC5 (REV C)-Ø5/8"



**PART NUMBER**

**COMPONENTS**

T1GXXCC STRAP, 2 STAINLESS BOSSES (Includes Hardware)

T1GXXCB STRAP, 1 STAINLESS BOSS, 1 BIMETALLIC BOSS (Includes Hardware)

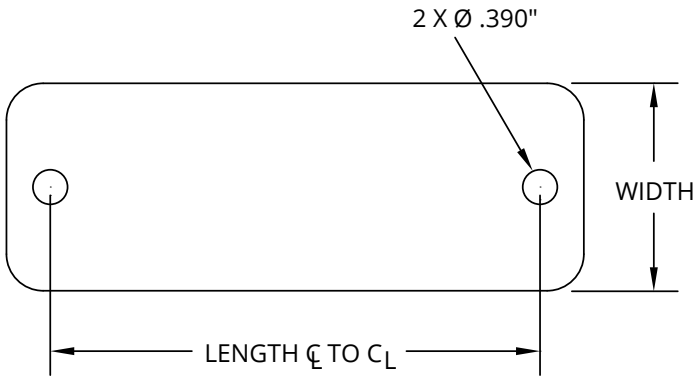
T1GXXBB STRAP, 2 BIMETALLIC BOSSES (Includes Hardware)

T1GHDW STAINLESS BOLT, STAINLESS WASHER

# BOND STRAPS

MIL-DTL-24749 REV A  
TYPE II AND TYPE III

MIL-STD-1310 REV E  
TYPE III



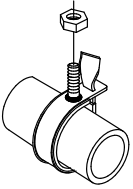
MIL-DTL-24749 REV A TYPE 2			MIL-DTL-24749 REV A TYPE 3		
STAINLESS			COPPER		
PART NUMBER	LENGTH	WIDTH	PART NUMBER	LENGTH	WIDTH
T203	3"	1"	T303	3"	1"
T206	6"	1-1/2"	T306	6"	1-1/2"
T209	9"	2"	T309	9"	2"
T212	12"	2-1/2"	T312	12"	2-1/2"



# **PIPE AND VENTILATION SUPPORT**



# PIPE AND VENTILATION



KEY LOCK  
PIPE HANGER  
STUD MOUNT

PHK025S - PHK300S STEEL

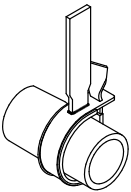
P. 9-3



LEG SUPPORT

EFBB24SA - EFBB36SA STEEL

P. 9-7



KEY LOCK  
PIPE HANGER  
WELD MOUNT

PWK025S - PWK300S STEEL

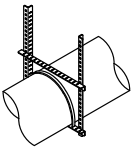
P. 9-4



HANGER LEG SUPPORT  
LIGHT DUTY  
WELD STUD TYPE

SPB10S - SPB36S STEEL

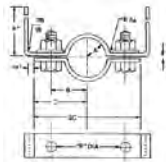
P. 9-8



HVAC DUCTING  
HANGER

QHVAC36 STEEL

P. 9-5



SHIPBOARD  
PIPE HANGER

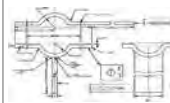
P. 9-9



HANGER LEG SUPPORT  
HEAVY DUTY  
WELD STUD TYPE

EFS112B - EFS148B STEEL  
EFS212B - EFS248B STEEL

P. 9-6



CLIP TYPE, WELDED  
TYPE, EXTENDED  
TYPE PIPE HANGER

P. 9-10

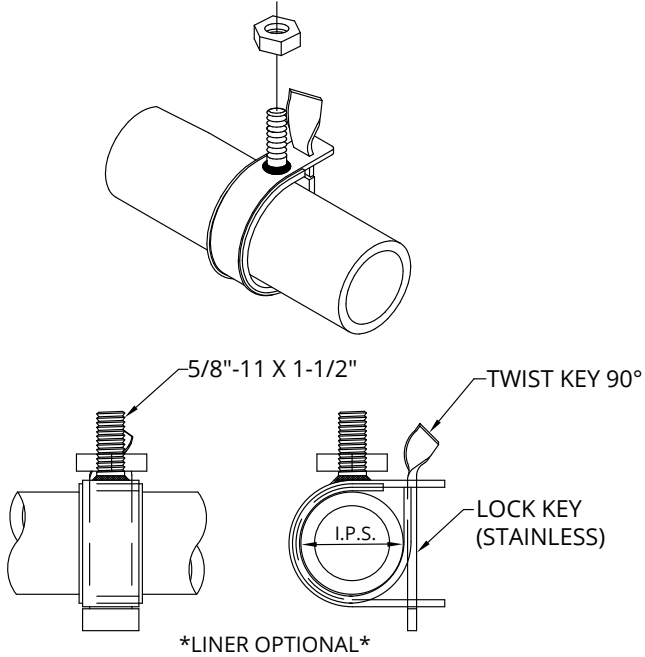
# **PIPE AND VENTILATION SUPPORT NOTES**



# KEY LOCK PIPE HANGER

## STUD MOUNT

used with EFS2XXB (Page 9-6)  
or SPBXXS (Page 9-8)

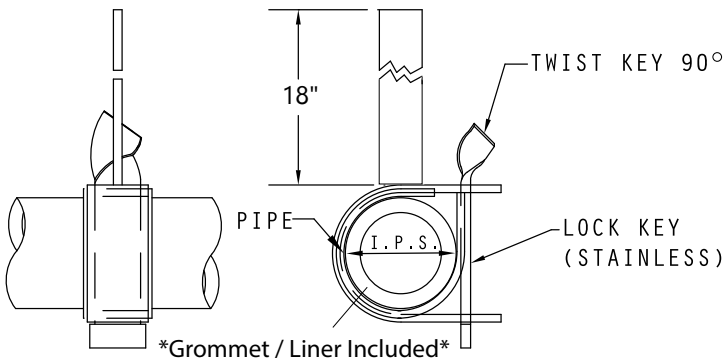
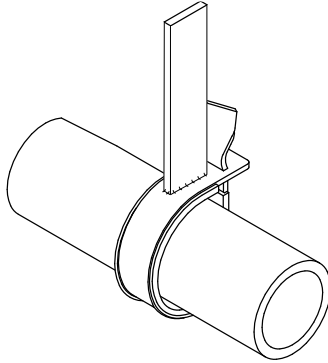


### STEEL

PART NUMBER	I.P.S. SIZE
WITH LINER	
PWK025S-L	1/4"
1200	3/8"
1201	1/2"
1202	3/4"
1203	1"
1204	1 1/4"
1205	1 1/2"
1206	2"
1207	2 1/2"
1208	3"
1209	3 1/2"
1210	4"

# KEY LOCK PIPE HANGER

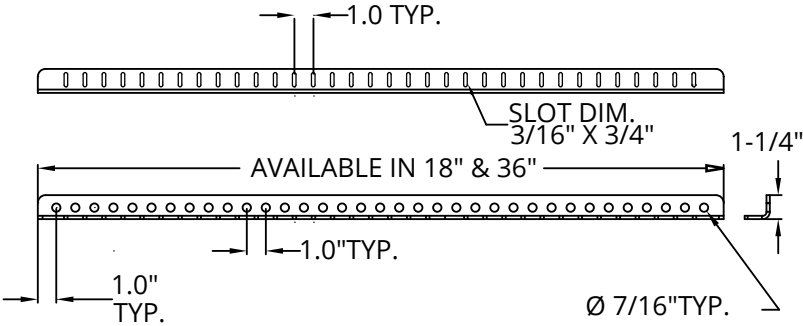
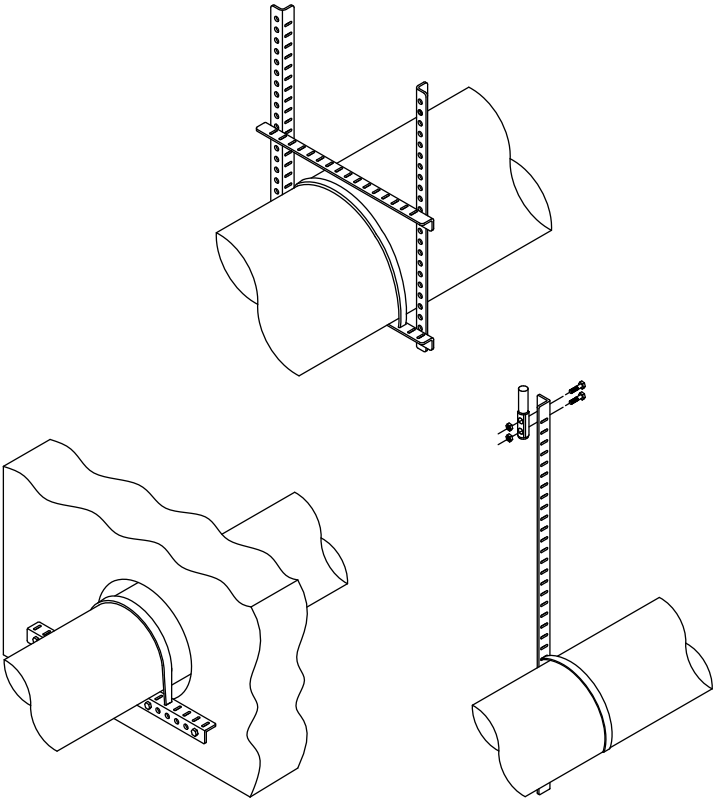
## WELD MOUNT



Note: Available in Stainless Steel upon request.

STEEL		
PART NUMBER	I.P.S. SIZE	WELD MOUNT
PWK025S	1/4"	1/4" x 3/4" x 18"
PWK038S	3/8"	1/4" x 3/4" x 18"
PWK050S	1/2"	1/4" x 3/4" x 18"
PWK075S	3/4"	1/4" x 3/4" x 18"
PWK100S	1"	1/4" x 1-1/2" x 18"
PWK125S	1-1/4"	1/4" x 1-1/2" x 18"
PWK150S	1-1/2"	1/4" x 1-1/2" x 18"
PWK200S	2"	1/4" x 1-1/2" x 18"
PWK250S	2-1/2"	1/4" x 1-1/2" x 18"
PWK300S	3"	1/4" x 1-1/2" x 18"

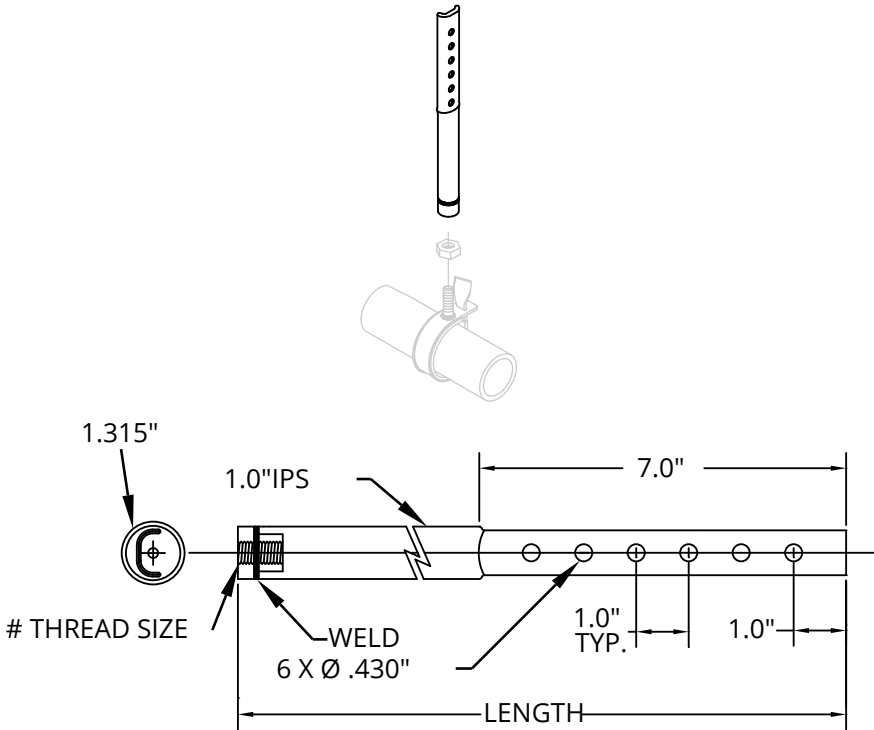
# HVAC DUCTING HANGER



STEEL	
PART NUMBER	
QHvac18	QHvac36

# HANGER LEG SUPPORT

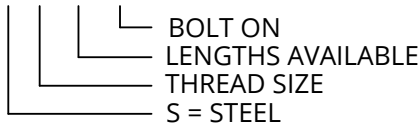
HEAVY DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF S # \*\* B



**ADDITIONAL LENGTHS AND MATERIALS AVAILABLE**

**AVAILABLE IN 6" INCREMENTS FROM 12" TO 48"**

**STEEL**

**PART NUMBER**

**THREAD SIZE**

EFS112B - EFS148B

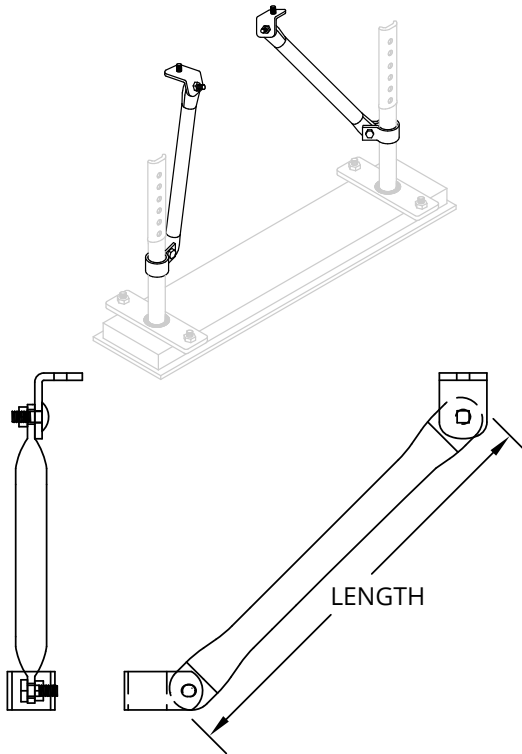
I.P.S 1.0" PIPE THREAD

EFS212B - EFS248B

5/8" - 11 U.N.C.

# LEG SUPPORT

## BOLT ON BRACE

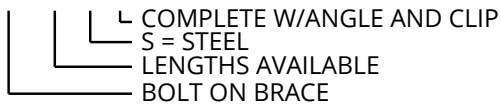


### CATALOG NUMBERING SYSTEM

(FOR EACH BRACE)

SAMPLE CATALOG NUMBER:

EF BB \*\* S A



**ADDITIONAL LENGTHS AVAILABLE**

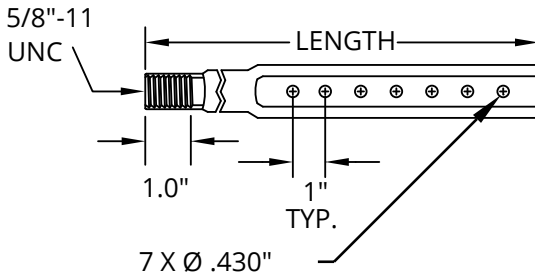
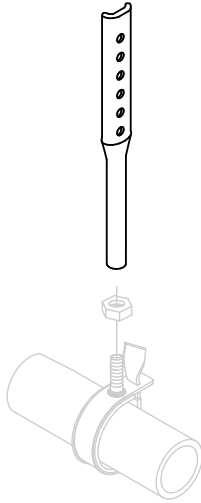
**AVAILABLE IN 24", 30", AND 36"**

**STEEL**

EFBB24SA - EFBB36SA

# HANGER LEG SUPPORT

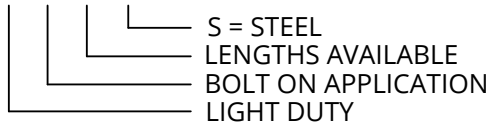
LIGHT DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

SP B \*\* S



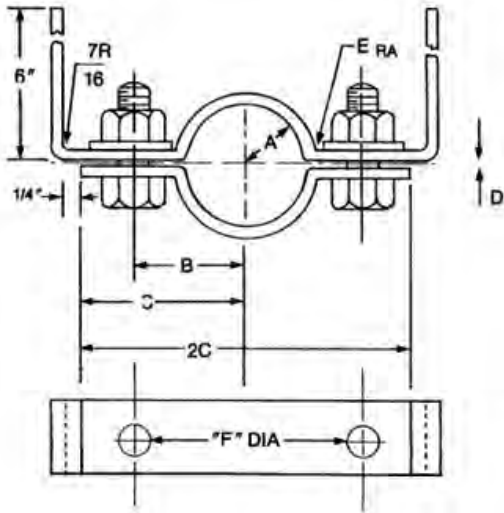
**ADDITIONAL LENGTHS AND MATERIALS AVAILABLE**

**AVAILABLE FROM 10" TO 48"**

**STEEL**

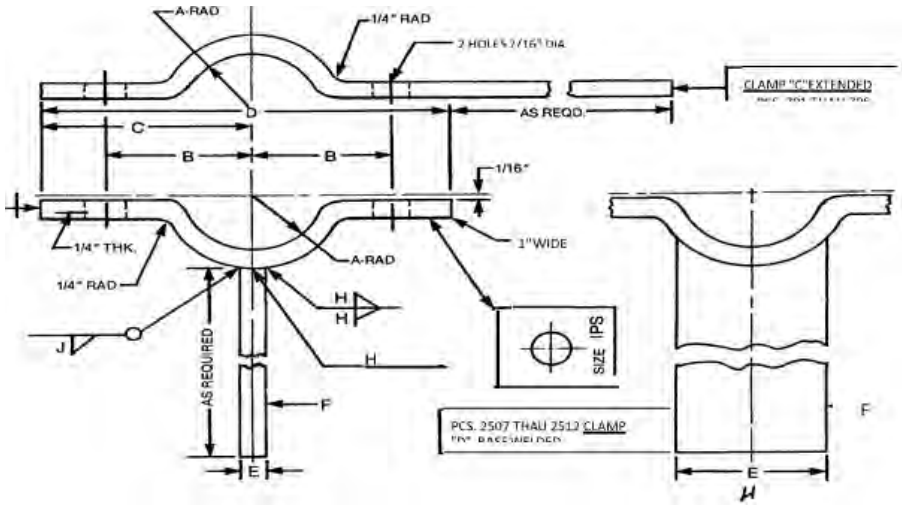
SPB10S - SPB48S

# SHIPBOARD PIPE HANGER



PIPE SIZE I.P.S.	A	B	C	O	E	F	FLAT BAR SIZE
1/4"	13/32"	1-1/8"	1-5/8"	1/16"	13/32"	3/8"	1 x 1/8"
3/8"	15/32"	1-1/4"	1-3/4"	—	—	—	—
1/2"	35/64"	1-5/16"	1-13/16"	—	—	—	—
3/4"	21/32"	1-7/16"	1-15/16"	—	—	—	1 x 3/16"
1"	25/32"	1-9/16"	2-1/16"	—	—	—	—
1-1/4"	61/64"	1-15/16"	2-1/2"	—	—	—	—
1-1/2"	1-5/64"	2-1/16"	2-5/8"	—	—	—	—
2"	1-5/16"	2-5/16"	2-7/8"	—	1/2"	—	—
2-1/2"	1-9/16"	2-9/16"	3-1/8"	—	—	—	1 x 1/4"
3"	1-7/8"	3-1/8"	3-15/16"	—	—	—	—
3-1/2"	2-1/8"	3-5/16"	4-3/16"	—	—	—	—
4"	2-3/8"	4-1/8"	5"	—	—	—	—

# CLIP TYPE, WELDED TYPE, EXTENDED TYPE PIPE HANGER



NOM I.P.S. SIZE	PIPE CLAMP TYPE & PART NO.				DIMENSIONS							
	A	B	C	D	A	B	C	D	E	F	H	J
1/4"	101	501	701	—	17/32"	1-1/4"	1-7/8"	3-3/4"	1/4"	1"	3/16"	—
3/8"	102	502	702	—	19/32"	1-3/8"	2"	4"	1/4"	1"	3/16"	—
1/2"	103	503	703	—	11/16"	1-7/16"	2-1/16"	4-1/8"	1/4"	1"	3/16"	—
3/4"	104	504	704	—	25/32"	1-9/16"	2-3/16"	4-3/8"	1/4"	1"	3/16"	—
1"	105	505	705	—	29/32"	1-11/16"	2 5/16"	4-5/8"	1/4"	1"	3/16"	—
1-1/4"	106	506	706	—	1-3/32"	1-7/8"	2-1/2"	5"	3/8"	1"	1/4"	—
1-1/2"	107	507	707	—	1-7/32"	2-1/16"	2-11/16"	5-3/8"	3/8"	1"	1/4"	—
2"	108	508	708	—	1-7/16"	2-9/32"	2-29/32"	5-13/16"	3/8"	1"	1/4"	—
2-1/2"	109	509	—	—	1-11/16"	2-17/32"	3-5/32"	6-5/16"	3/8"	1"	1/4"	—
3"	110	510	—	—	2"	2-27/32"	3-15/32"	6-15/16"	3/8"	1"	1/4"	—
3-1/2"	111	511	—	—	2-1/4"	3-1/8"	3-3/4"	7-1/2"	3/8"	1"	1/4"	—
4"	112	512	—	—	2-1/2"	3-11/32"	3-31/32"	7-15/16"	1/2"	1"	5/16"	—
5"	113	513	—	—	3-1/32"	3-29/32"	4-17/32"	9-1/16"	1/2"	1"	5/16"	—
6"	114	514	—	—	3-9/16"	4-7/16"	5-1/16"	10-1/8"	1/2"	1"	5/16"	—
8"	115	—	—	—	4-9/16"	5-15/32"	6-3/32"	12-3/16"	—	—	5/16"	—
1-1/2"	—	—	—	2507	1-7/32"	2-1/16"	2-11/16"	5-3/8"	1-1/2"	1/2"	—	—
2"	—	—	—	2508	1-7/16"	2-9/32"	2-29/32"	5-13/16"	1-1/2"	1/2"	—	5/16"
2-1/2"	—	—	—	2509	1-11/16"	2-17/32"	3-5/32"	6-5/16"	1-1/2"	1/2"	—	5/16"
3"	—	—	—	2510	2"	1-27/32"	3-15/32"	6-15/16"	1-1/2"	1/2"	—	5/16"
3-1/2"	—	—	—	2511	2-1/4"	3-1/8"	3-3/4"	7-1/8"	1-1/2"	1/2"	—	5/16"
4"	—	—	—	2512	2-1/2"	3-11/32"	3-31/32"	7-15/16"	1-1/2"	1/2"	—	5/16"

**NOTES:**

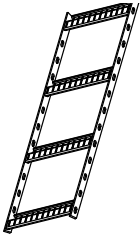
1. Clamps avail. with plain, painted (yellow zinc chromate) or galvanized finish
2. Ref. Dwg. Buships N.o. 845-2069186
3. Material: Steel, ASTM-A36 or equal.



# **CABLE TRAYS AND RACKS**

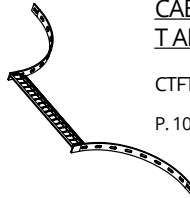


# CABLE TRAYS AND RACKS



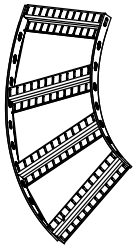
CABLE RACK  
HEAVY DUTY  
STRAIGHT

CTFXXX0900 - CTFXXX3000 FLUSH  
RAILS STEEL  
CTFXXX0900M - CTFXXX3000M EXT.  
RAILS STEEL  
P. 10-4



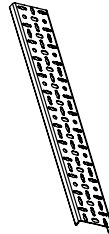
CABLE RACK  
T AND CROSS

CTFT300300 - CTFT600450 STEEL  
P. 10-8



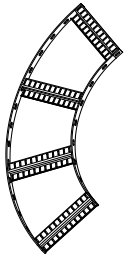
CABLE RACK  
HEAVY DUTY  
FLAT BEND  
30°, 45°, 60°

CTFXXX30 - CTFXXX60 STEEL  
P. 10-5



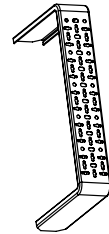
CUT-TO-LENGTH  
CABLE TRAY  
HEAVY DUTY

CTRXX0600 - CTRXX3000 STEEL  
P. 10-9



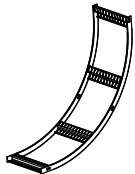
CABLE RACK  
HEAVY DUTY  
FLAT BEND 90°

CTFRXX300 - CTFRXX450 STEEL  
P. 10-6



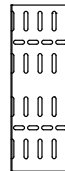
CABLE TRAY  
HEAVY DUTY  
BENT

CTU011203 - CTU066017  
STEEL  
P. 10-10



CABLE RACK  
HEAVY DUTY  
RISER BEND

CTFAXX300 - CTFAXX950 STEEL  
P. 10-7

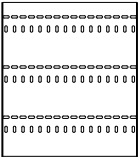


CABLE TRAY  
LIGHT DUTY TROUGH

CTR20-050 - CTR20-200 STAINLESS  
CTR20-050S - CTR20-200S STEEL  
CTR20-050A - CTR20-200A  
ALUMINUM  
P. 10-11

CONTINUED ON NEXT PAGE

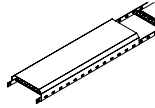
# CABLE TRAYS AND RACKS



CABLE TRAY  
LIGHT DUTY TROUGH  
(WIDE)

CTR20-400 - CTR20-500 STAINLESS  
CTR20-400S - CTR20-500S STEEL  
CTR20-400A - CTR20-500A  
ALUMINUM

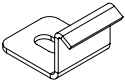
P. 10-12



RACK KICK COVER

CTFCOV3001000 -  
CTFCOV6001000 STEEL  
CTFCOV3001000A -  
CTFCOV6001000A ALUM.

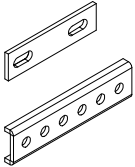
P. 10-16



CTF SERIES RACK  
MOUNTING CLIP

CTFCLP STEEL

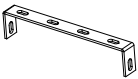
P. 10-13



CTF SERIES RACK  
SPLICES

CTFSP160 STEEL  
CTFSPxxxHD STEEL

P. 10-14



STANDOFF  
BRACKET

FBMBKT300 - FBMBKT450 STEEL

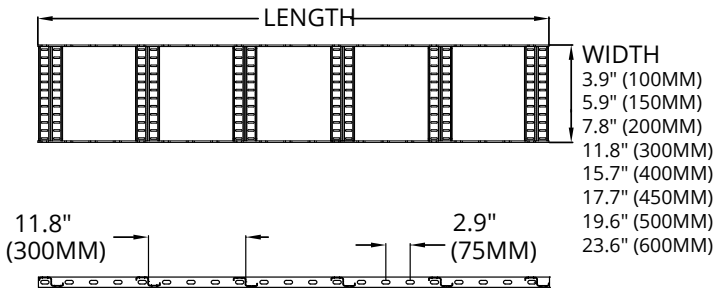
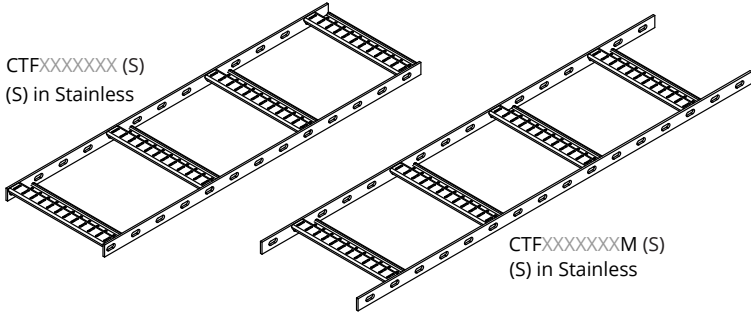
P. 10-15

# **CABLE TRAYS AND RACKS**

## **NOTES**

# CABLE RACK

## STRAIGHT



AVAILABLE WITH FLUSH OR EXTENDED SIDE RAILS

**STEEL STAINLESS STEEL**

**XXX = AVAILABLE WIDTHS OF 100 (3.9"), 150 (5.9"), 200 (7.8"), 300 (11.8"), 400 (15.7"), 450 (17.7"), 500 (19.6"), 600 (23.6")**

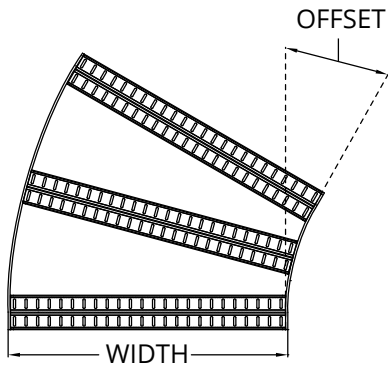
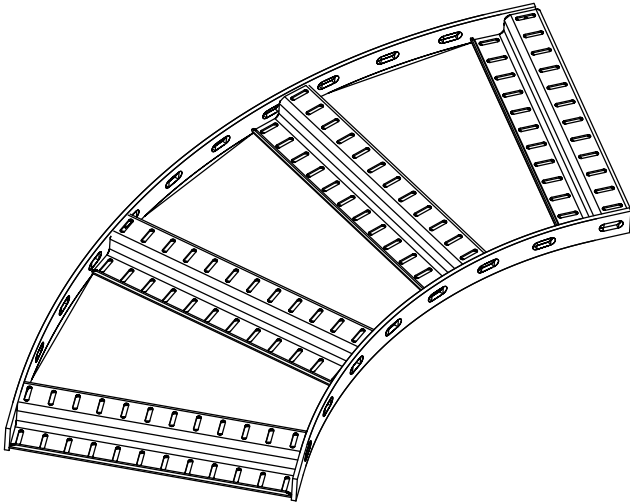
**FLUSH SIDE RAILS**

**EXTENDED SIDE RAILS**

<b>PART NUMBER</b>	<b>LENGTH</b>	<b>PART NUMBER</b>	<b>LENGTH</b>
CTFXXX0900	26.5"	CTFXXX0900M	35.4" (900MM)
CTFXXX1200	38.3"	CTFXXX1200M	47.2" (1200MM)
CTFXXX1500	50.2"	CTFXXX1500M	59.1" (1500MM)
CTFXXX1800	62.0"	CTFXXX1800M	70.9" (1800MM)
CTFXXX2100	73.8"	CTFXXX2100M	82.7" (2100MM)
CTFXXX2400	85.6"	CTFXXX2400M	94.5" (2400MM)
CTFXXX2700	97.4"	CTFXXX2700M	106.3" (2700MM)
CTFXXX3000	109.2"	CTFXXX3000M	118.1" (3000MM)

# CABLE RACK

FLAT BEND 30°, 45°, 60°



## STEEL

XXX = AVAILABLE WIDTHS OF 300 (11.8"), 450 (17.7"), 600 (23.6")

PART NUMBER

OFFSET

CTFXXX30

30°

CTFXXX45

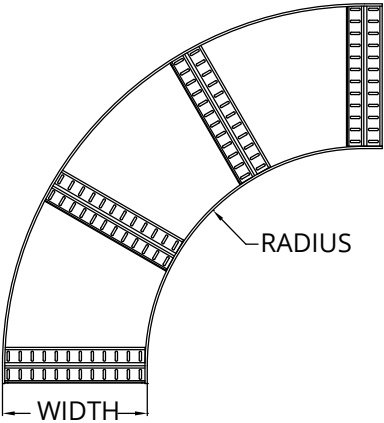
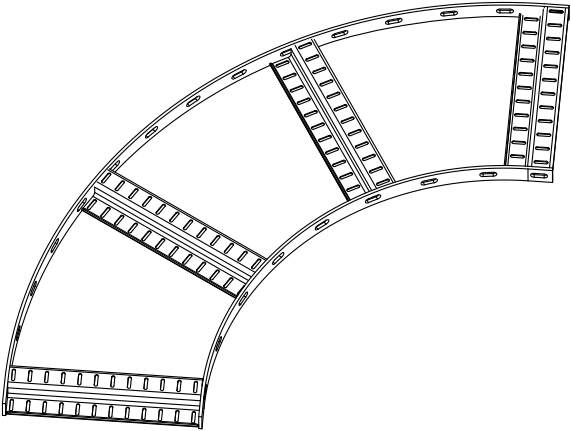
45°

CTFXXX60

60°

# CABLE RACK

FLAT BEND 90°



**STEEL**

**XXX = AVAILABLE WIDTHS OF  
200 (7.9"), 300 (11.8"), 350 (13.8"), 450 (17.7"), 600 (23.6")**

**PART NUMBER**

**RADIUS**

CTFRXXX300

300MM (11.8")

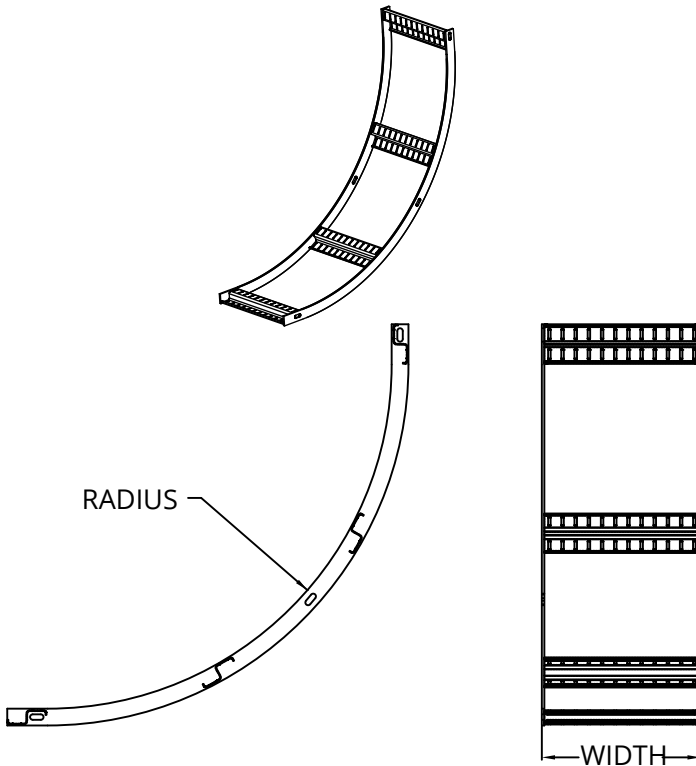
CTFRXXX450

450MM (17.7")



# CABLE RACK

## RISER BEND



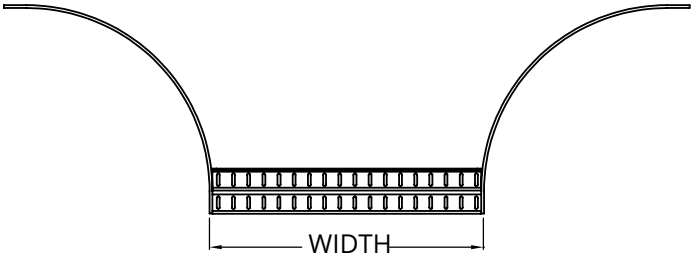
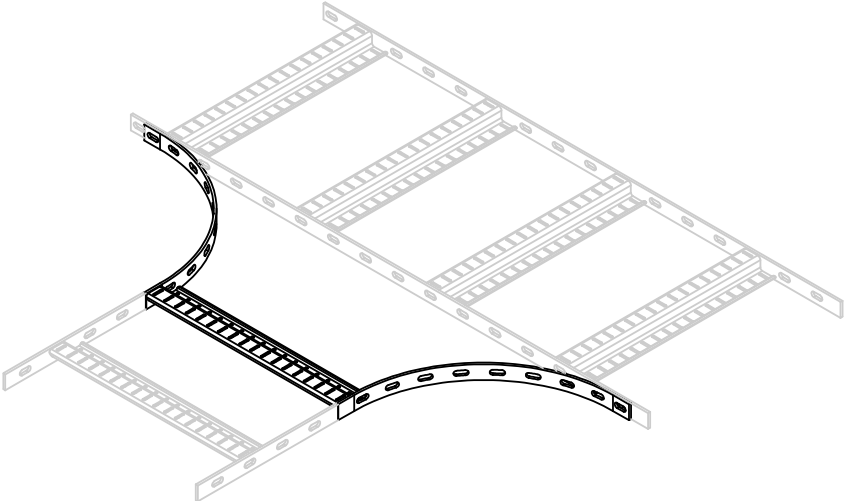
### STEEL

**XXX = AVAILABLE WIDTHS OF 100MM (4.0") - 600MM (23.6")**

PART NUMBER	RADIUS
CTFAXXX300	300MM (11.8")
CTFAXXX450	450MM (17.7")
CTFAXXX550	550MM (21.7")
CTFAXXX575	575MM (22.6")
CTFAXXX650	650MM (25.5")
CTFAXXX700	700MM (27.6")
CTFAXXX750	750MM (29.5")
CTFAXXX825	825MM (32.5")
CTFAXXX850	850MM (33.5")
CTFAXXX950	950MM (37.4")

# CABLE RACK

## T AND CROSS

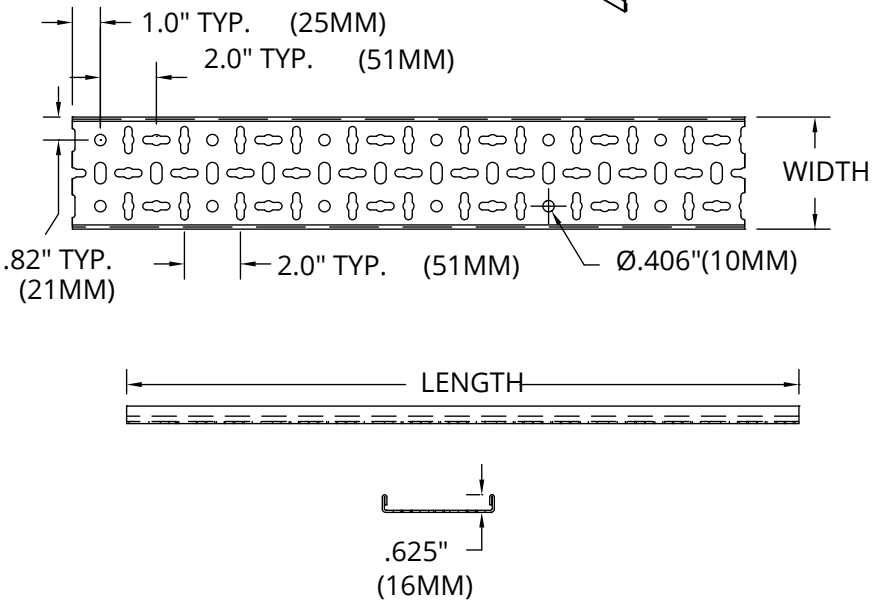
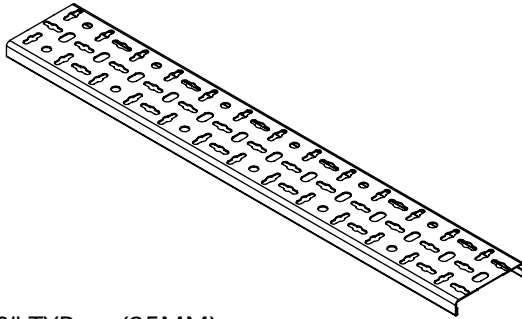


NOTE: 2 PCS NEEDED FOR CROSS

STEEL	
PART NUMBER	
300MM BEND RADIUS	450MM BEND RADIUS
CTFT300300	CTFT300450
CTFT450300	CTFT450450
CTFT600300	CTFT600450

# CUT-TO-LENGTH CABLE TRAY

HEAVY DUTY TRAY



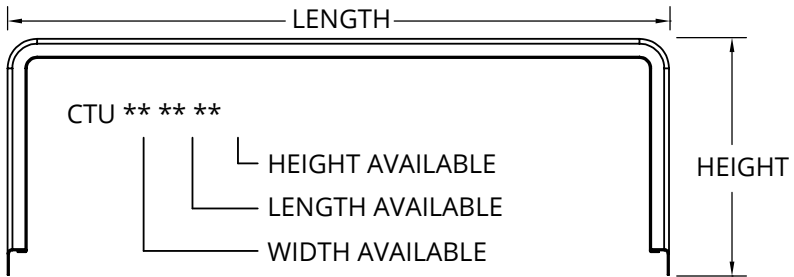
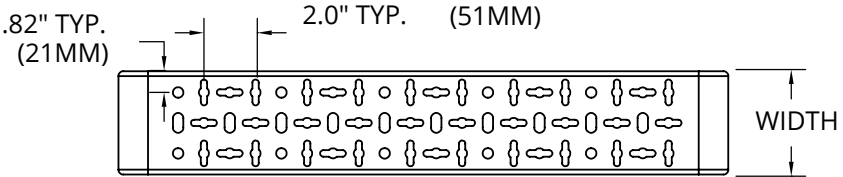
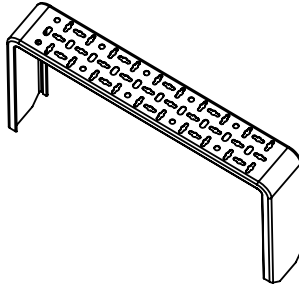
## STEEL

XX = AVAILABLE WIDTHS OF 1.6", 4", 6", 8", 12"

PART NUMBER	LENGTH
CTRXX0600	24" (600MM)
CTRXX1000	40" (1000MM)
CTRXX1500	60" (1500MM)
CTRXX2000	80" (2000MM)
CTRXX2500	96" (2500MM)
CTRXX2850	112" (2850MM)
CTRXX3000	118" (3000MM)

# CABLE TRAY

## HEAVY DUTY BENT TRAY



\*\*\*NOTE SLOTS ONLY AVAILABLE IN 6"(150mm) WIDTH\*\*\*

### STEEL

AVAILABLE WIDTHS OF  
1.6" (40mm), 4" (100mm), AND 6" (150mm)

AVAILABLE LENGTHS OF  
12"(300mm), 24"(600mm), 40"(1000mm), 60"(1500mm) AND 80"(2000mm)  
\*ALL LENGTHS NOT AVAILABLE IN ALL SIZES

AVAILABLE HEIGHTS OF  
2" (50mm), 4" (100mm), 6" (150mm),  
8" (200mm), 12" (300mm), AND 17.5" (450mm)

1.6" (40mm) WIDE  
PART NUMBER

4" (100mm) WIDE  
PART NUMBER

6" (150mm) WIDE  
PART NUMBER

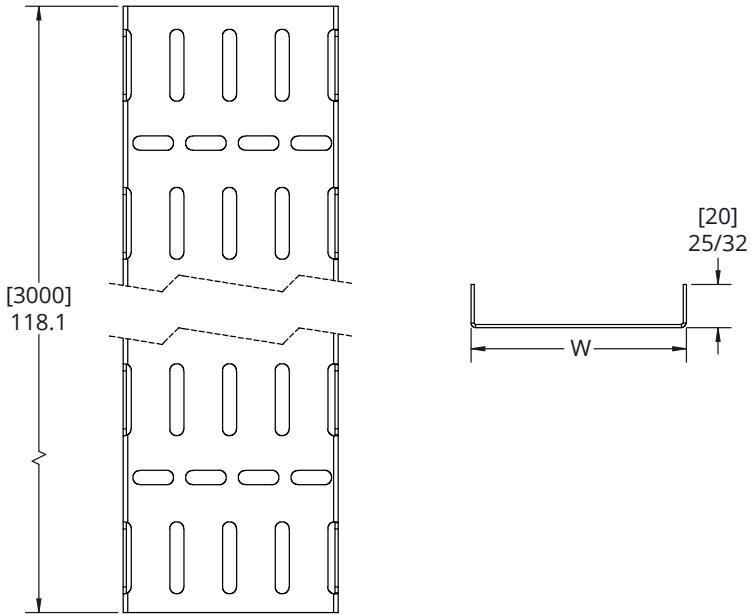
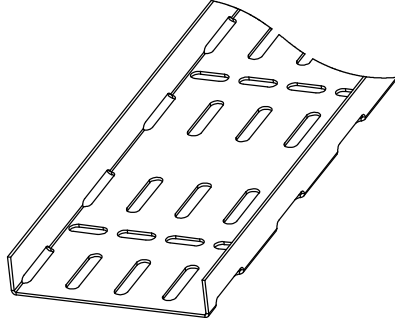
CTU011202 - CTU014017

CTU041202 - CTU048017

CTU061202 - CTU066017

# CABLE TRAY

## LIGHT DUTY TROUGH STYLE

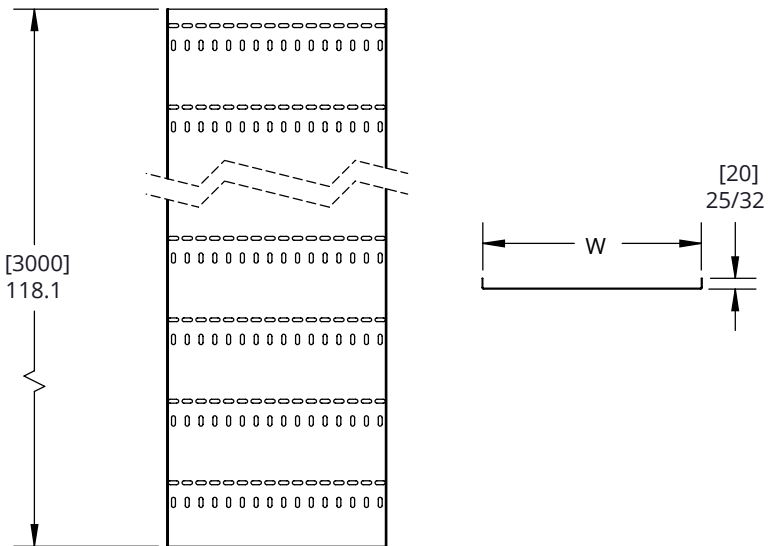
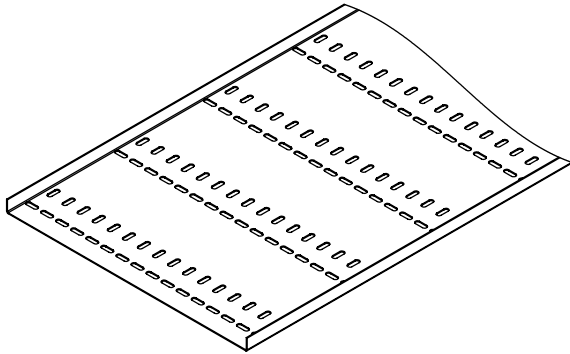


ADDITIONAL HEIGHTS AND WIDTHS AVAILABLE ON REQUEST  
MINIMUM ORDER QUANTITIES MAY APPLY

PART NUMBER			WIDTH
STAINLESS	STEEL	ALUMINUM	
CTR20-050	CTR20-050S	CTR20-050A	1.969" (50MM)
CTR20-100	CTR20-100S	CTR20-100A	3.937" (100MM)
CTR20-150	CTR20-150S	CTR20-150A	5.906" (150MM)
CTR20-200	CTR20-200S	CTR20-200A	7.874" (200MM)
CTR20-300	CTR20-300S	CTR20-300A	11.811" (300MM)

# CABLE TRAY

## LIGHT DUTY TROUGH STYLE (WIDE)

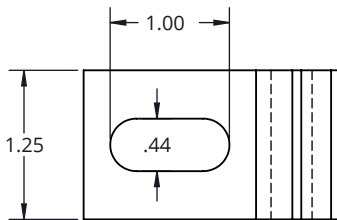
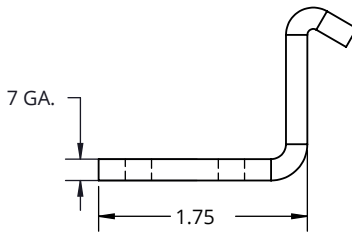
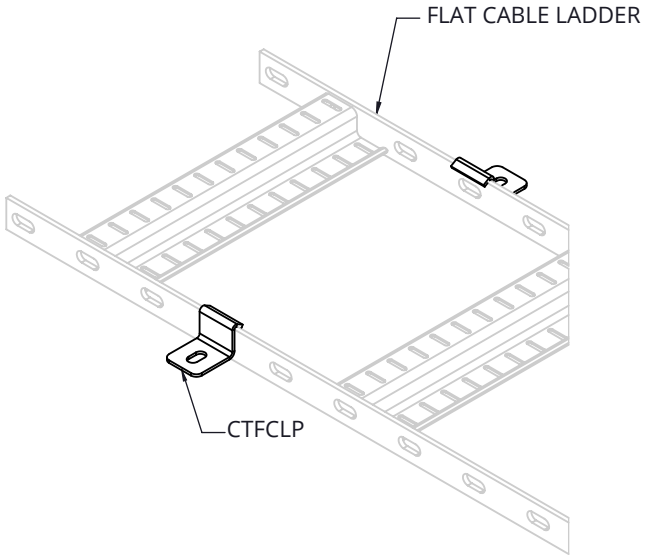


ADDITIONAL HEIGHTS AND WIDTHS AVAILABLE ON REQUEST  
 MINIMUM ORDER QUANTITIES MAY APPLY

PART NUMBER			WIDTH
STAINLESS	STEEL	ALUMINUM	
CTR20-400	CTR20-400S	CTR20-400A	15.8" (400MM)
CTR20-500	CTR20-500S	CTR20-500A	19.7" (500MM)

# MOUNTING CLIP

## CTF SERIES RACK CLIP



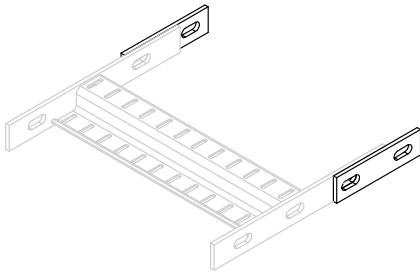
**PART NUMBER**

CTFCLP

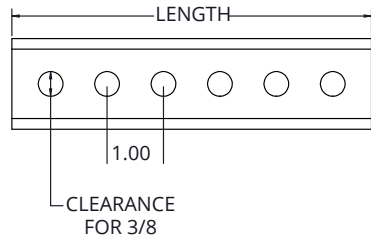
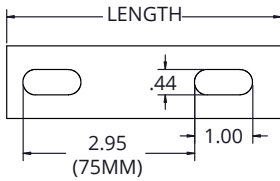
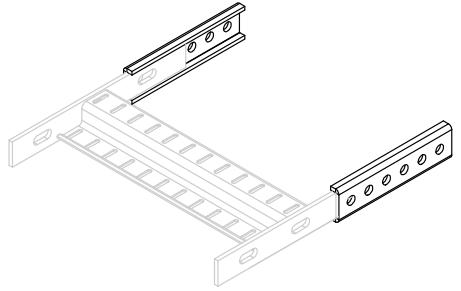
# SPLICES

## CTF SERIES RACK SPLICES

STANDARD SPLICE



HEAVY DUTY SPLICE

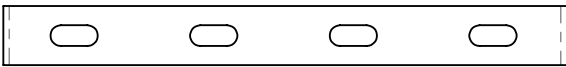
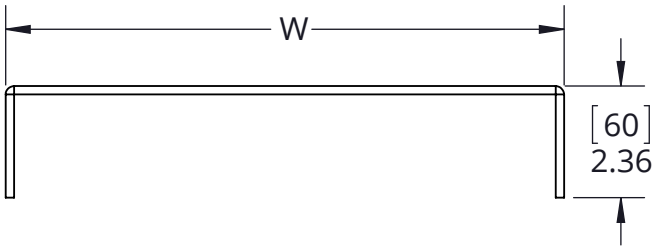
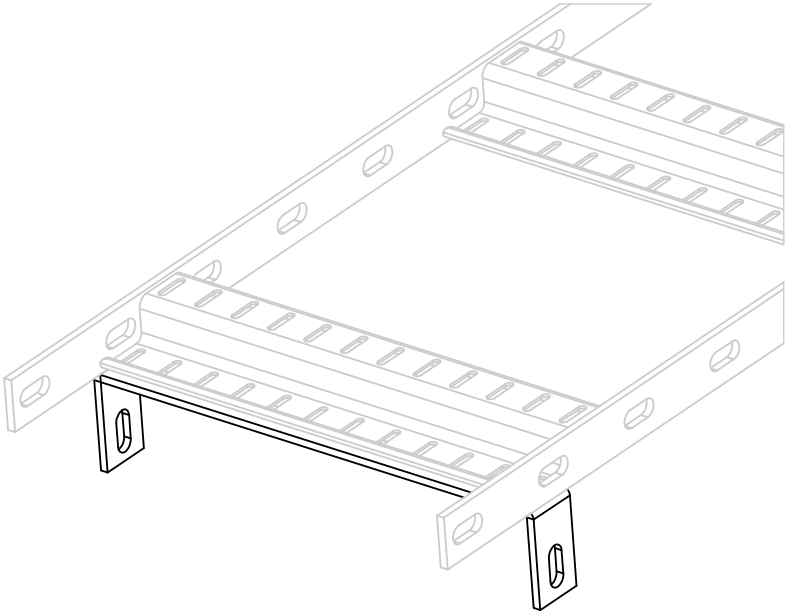


ADDITIONAL LENGTHS AVAILABLE

STEEL			
STANDARD SPLICE		HEAVY DUTY SPLICE	
PART NUMBER	LENGTH	PART NUMBER	LENGTH
CTFSP120	4.72" (120MM)	CTFSP160HD	6.4" (162MM)
		CTFSP200HD	8.4" (212MM)



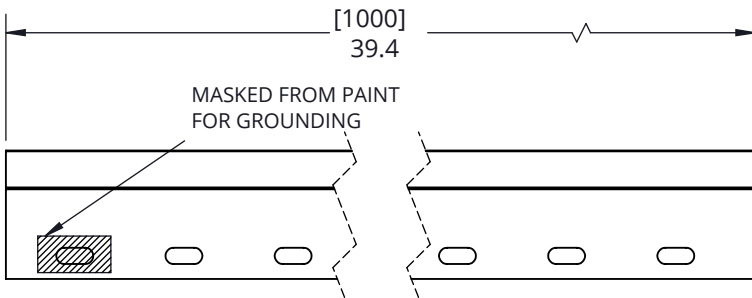
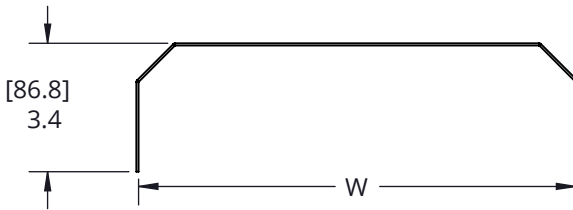
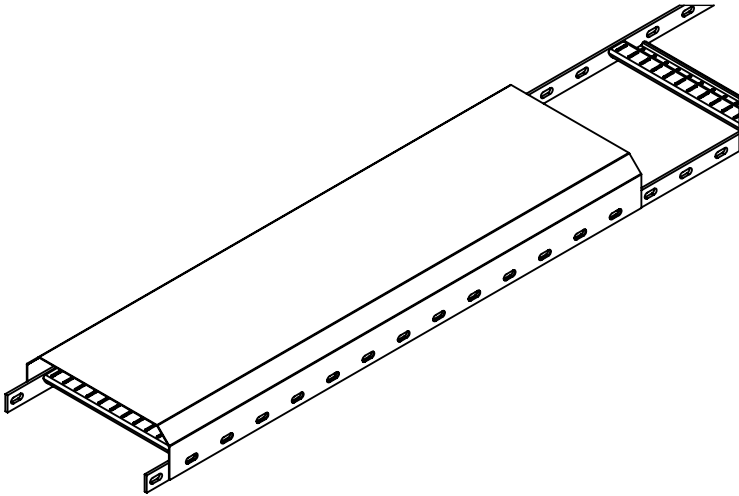
# RACK STANDOFF BRACKET



ADDITIONAL WIDTHS AVAILABLE

STEEL	
PART NUMBER	WIDTH
FBMBKT300	11.8 (300MM)
FBMBKT450	17.7 (450MM)A

# RACK KICK COVER

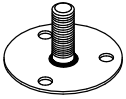


STEEL		ALUMINUM	
PART NUMBER	WIDTH	PART NUMBER	WIDTH
CTFCOV3001000	11.8 (300MM)	CTFCOV3001000A	11.8 (300MM)
CTFCOV4501000	17.7 (450MM)	CTFCOV4501000A	17.7 (450MM)
CTFCOV6001000	23.6 (600MM)	CTFCOV6001000A	23.6 (600MM)

# **ACCESSORIES**



# ACCESSORIES



STUD PLATE  
3 HOLE MOUNT

RT138A10 - RT138A20-1 ALUMINUM  
RT138C10 - RT138C20-1 STAINLESS

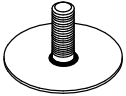
P. 11-3



SADDLES

S1025S - S3125ST STEEL  
S1025A - S3125AT ALUMINUM  
S1025SS - S3125SST STAINLESS

P. 11-8



STUD PLATE  
GLUE MOUNT

CB138A10 - CB138A20-1 ALUMINUM  
CB138C10 - CB138C20-1 STAINLESS

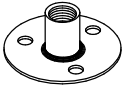
P. 11-4



THIMBLES

CM003069 - CM427800 COPPER

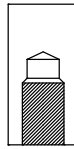
P. 11-9



TAPPED PAD PLATE  
3 HOLE MOUNT

RT138AT1 - RT138AT2-1 ALUMINUM  
RT138CT1 - RT138CT2-1 STAINLESS

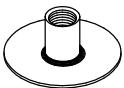
P. 11-5



TAPPED PADS

W1011/4 - W1031/2 ALUMINUM

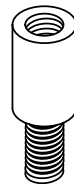
P. 11-10



TAPPED PAD PLATE  
GLUE MOUNT

CB138ATP - CB438ATP ALUMINUM  
CB138CTP - CB438CTP STAINLESS

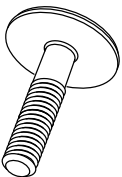
P. 11-6



STACKING STUD

PHS030S33 - PHS030S55 STEEL  
PHS030C33 - PHS030C55 STAINLESS

P. 11-11



HONEYCOMB STUD

RB438C15 STAINLESS

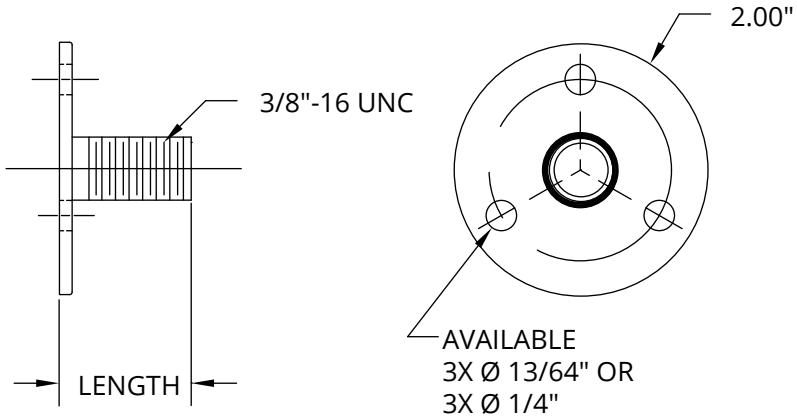
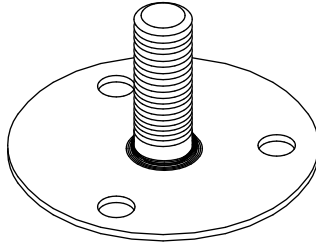
P. 11-7

# **ACCESSORIES**

## NOTES

# STUD PLATE

## 3 HOLE MOUNT



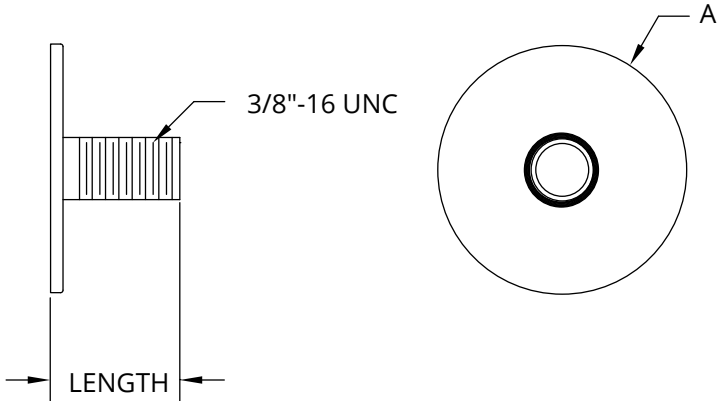
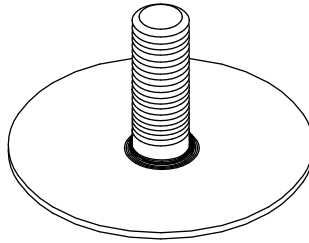
### ADDITIONAL THREAD SIZE AND STUD DIAMETERS AVAILABLE

#### PART NUMBER

ALUMINUM	STAINLESS	LENGTH	HOLE DIA.
RT138A10	RT138C10	1"	13/64"
RT138A15	RT138C15	1 1/2"	13/64"
RT138A20	RT138C20	2"	13/64"
RT138A10-I	RT138C10-I	1"	1/4"
RT138A15-I	RT138C15-I	1 1/2"	1/4"
RT138A20-I	RT138C20-I	2	1/4"

# STUD PLATE

## GLUE MOUNT



**NO GLUE OR APPLICATOR INCLUDED WITH PART  
ADDITIONAL THREAD SIZE AND STUD DIAMETERS AVAILABLE**

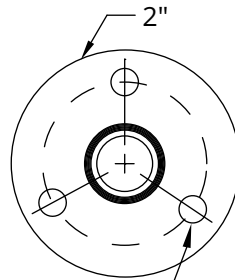
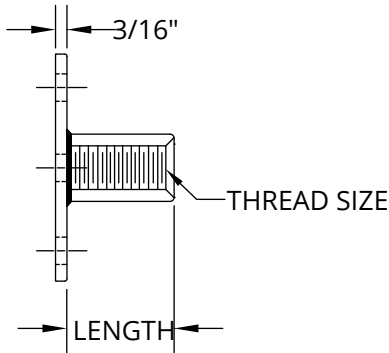
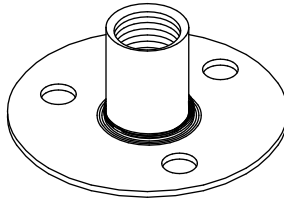
### PART NUMBER

ALUMINUM	STAINLESS	LENGTH	HOLE DIA.
CB138A10	CB138C10	1"	2"
CB138A15	CB138C15	1 1/2"	2"
CB138A20	CB138C20	2"	2"
CB438A10	CB438C10	1"	1 1/4"
CB438A15	CB438C15	1 1/2"	1 1/4"
CB438A20	CB438C20	2	1 1/4"



# TAPPED PAD PLATE

3 HOLE MOUNT



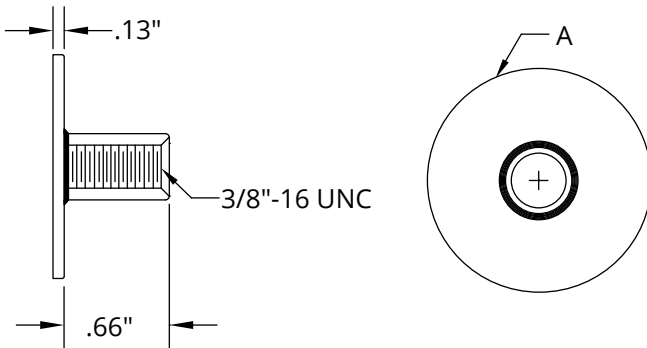
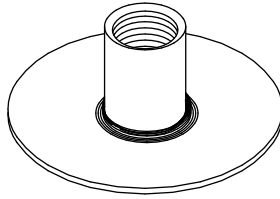
AVAILABLE  
3X Ø 13/64"  
OR 3X Ø 1/4"

## ADDITIONAL THREAD SIZE AND TAPPED PAD DIAMETERS AVAILABLE

PART NUMBER				
ALUMINUM	STAINLESS	THREAD SIZE	LENGTH	HOLE DIA.
RT138AT1	RT138CT1	3/8" - 16	1"	13/64"
RT138AT2	RT138CT2	3/8" - 16	2"	13/64"
RT138AT1-I	RT138CT1-I	3/8" - 16	1"	1/4"
RT138AT2-I	RT138CT2-I	3/8" - 16	2"	1/4"

# TAPPED PAD PLATE

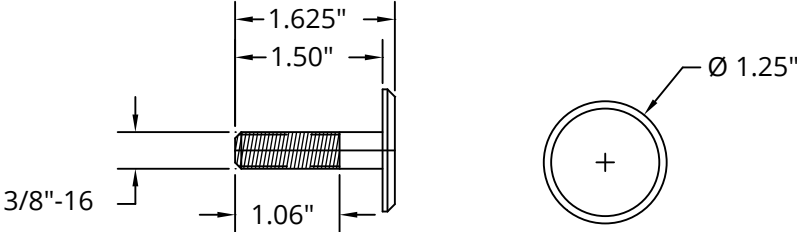
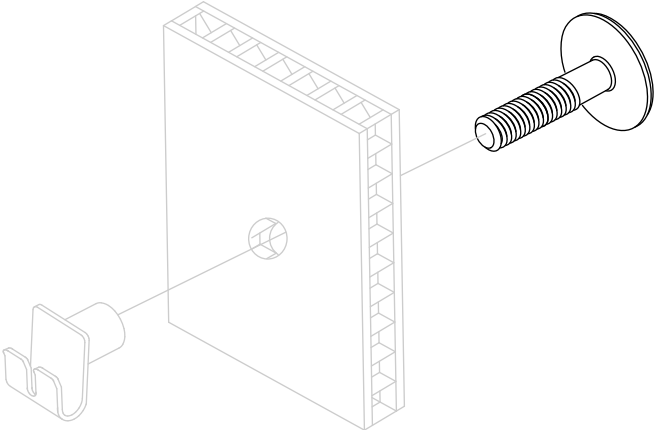
## GLUE MOUNT



**NO GLUE OR APPLICATOR INCLUDED WITH PART  
ADDITIONAL THREAD SIZE AND DIAMETERS AVAILABLE**

PART NUMBER		A DIA.
ALUMINUM	STAINLESS	
CB138ATP	CB138CTP	2"
CB438ATP	CB438CTP	1 1/4"

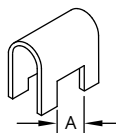
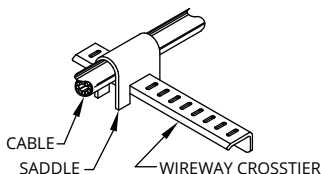
# HONEYCOMB STUD



**STAINLESS**

RB438C15

# SADDLES



## SADDLE FOR NAVY STANDARD WIREWAY CROSSTIERS

A DIM - 1-13/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025S	S1025A	S1025SS	1	.25
S1050S	S1050A	S1050SS	1	.50
S1075S	S1075A	S1075SS	1	.75
S1100S	S1100A	S1100SS	1	1.00
S1125S	S1125A	S1125SS	1	1.25
S2025S	S2025A	S2025SS	2	.25
S2050S	S2050A	S2050SS	2	.50
S2075S	S2075A	S2075SS	2	.75
S2100S	S2100A	S2100SS	2	1.00
S2125S	S2125A	S2125SS	2	1.25
S3025S	S3025A	S3025SS	3	.25
S3050S	S3050A	S3050SS	3	.50
S3075S	S3075A	S3075SS	3	.75
S3100S	S3100A	S3100SS	3	1.00
S3125S	S3125A	S3125SS	3	1.25

## SADDLE FOR MOR, 9MAX, 3MAX, AND 9S CROSSTIERS

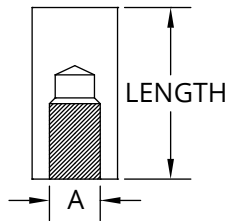
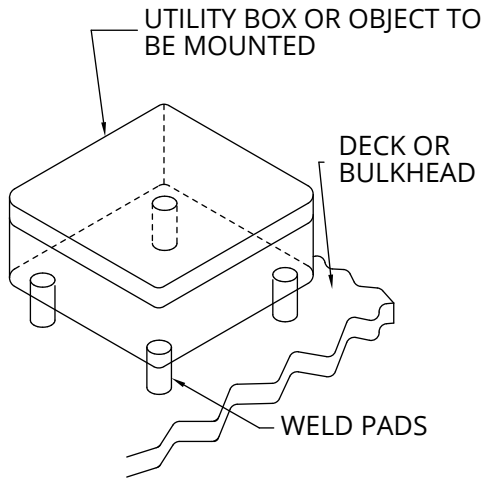
A DIM - 1-9/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025SM	S1025AM	S1025SSM	1	.25
S1050SM	S1050AM	S1050SSM	1	.50
S1075SM	S1075AM	S1075SSM	1	.75
S1100SM	S1100AM	S1100SSM	1	1.00
S1125SM	S1125AM	S1125SSM	1	1.25
S2025SM	S2025AM	S2025SSM	2	.25
S2050SM	S2050AM	S2050SSM	2	.50
S2075SM	S2075AM	S2075SSM	2	.75
S2100SM	S2100AM	S2100SSM	2	1.00
S2125SM	S2125AM	S2125SSM	2	1.25
S3025SM	S3025AM	S3025SSM	3	.25
S3050SM	S3050AM	S3050SSM	3	.50
S3075SM	S3075AM	S3075SSM	3	.75
S3100SM	S3100AM	S3100SSM	3	1.00
S3125SM	S3125AM	S3125SSM	3	1.25

## SADDLE FOR T-BAR HANGER

A DIM - 1-3/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025ST	S1025AT	S1025SST	1	.25
S1050ST	S1050AT	S1050SST	1	.50
S1075ST	S1075AT	S1075SST	1	.75
S1100ST	S1100AT	S1100SST	1	1.00
S1125ST	S1125AT	S1125SST	1	1.25
S2025ST	S2025AT	S2025SST	2	.25
S2050ST	S2050AT	S2050SST	2	.50
S2075ST	S2075AT	S2075SST	2	.75
S2100ST	S2100AT	S2100SST	2	1.00
S2125ST	S2125AT	S2125SST	2	1.25
S3025ST	S3025AT	S3025SST	3	.25
S3050ST	S3050AT	S3050SST	3	.50
S3075ST	S3075AT	S3075SST	3	.75
S3100ST	S3100AT	S3100SST	3	1.00
S3125ST	S3125AT	S3125SST	3	1.25



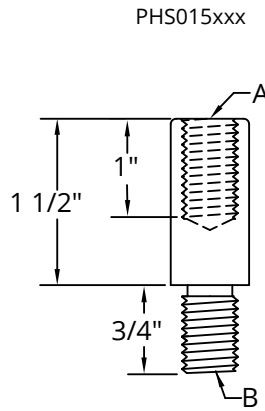
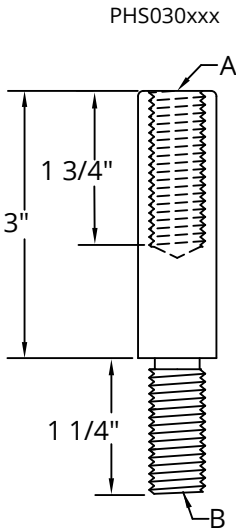
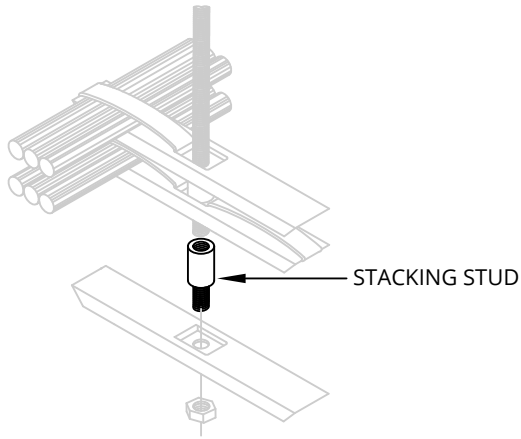
# TAPPED PADS



## ADDITIONAL SIZES AND MATERIALS AVAILABLE

PART NUMBER			
ALUMINUM	STEEL	LENGTH	A
W1001/4	W100S1/4	3/8"	1/4" 20
W1003/8	W100S3/8	1/2"	3/8" 16
W1001/2	W100S1/2	5/8"	1/2" 13
W1011/4	W101S1/4	1	1/4" 20
W1013/8	W101S3/8	1	3/8" 16
W1011/2	W101S1/2	1	1/2" 13
W1021/4	W102S1/4	2	1/4" 20
W1023/8	W102S3/8	2	3/8" 16
W1021/2	W102S1/2	2	1/2" 13
W1031/4	W103S1/4	3	1/4" 20
W1033/8	W103S3/8	3	3/8" 16
W1031/2	W103S1/2	3	1/2" 13

# STACKING STUD



## STACKING STUDS FOR ADDING MULTIPLE TIERS

STEEL	STAINLESS	STEEL	STAINLESS	A	B
PHS030S33	PHS030C33	PHS015S33	PHS015C33	3/8-16	3/8-16
PHS030S53	PHS030C53	PHS015S53	PHS015C53	5/8-11	3/8-16
PHS030S55	PHS030C55	PHS015S55	PHS015C55	5/8-11	5/8-11



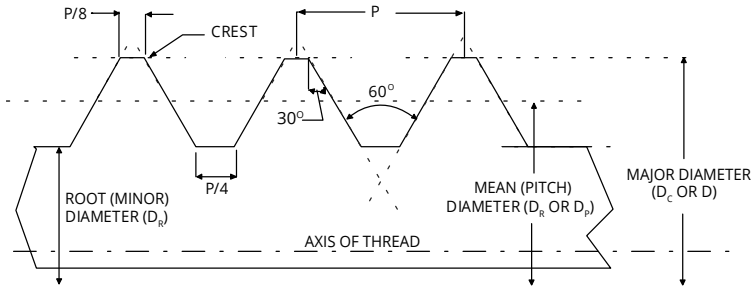


# RESOURCES



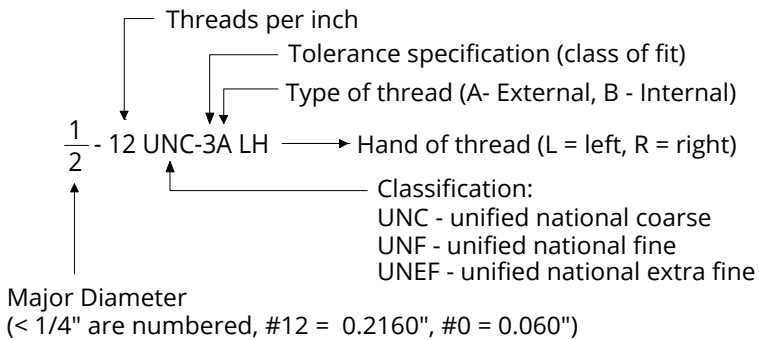
# THREAD STANDARDS

## UNIFIED AND ISO THREAD GEOMETRY

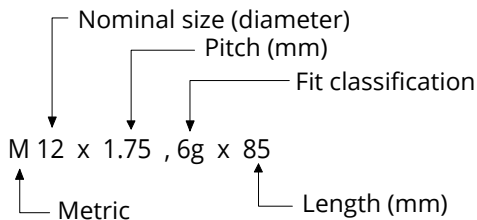


CLASS	UNIFIED		METRIC	
	EXTERNAL THREAD	INTERNAL THREAD	EXTERNAL THREAD	INTERNAL THREAD
LOOSE	1A	1B	8G	7H
STANDARD	2A	2B	6G	6H
CLOSE	3A	3B	4G	5H

### UNIFIED NATIONAL:



### METRIC:



# THREAD DIMENSIONS

## AND TAP DRILL SIZES

Size	Threads Per Inch		Outside Diameter Inches	Pitch Diameter Inches	Root Diameter Inches	Tap Drill Approx. 75% Full Thread	Decimal Equiv. Of Tap Drill
	NC UNC	NF UNF					
0	—	80	.0600	.0519	.0438	3/64"	.0469
1	64	—	.0730	.0629	.0527	53	.0595
1	—	72	.0730	.0640	.0550	53	.0595
2	56	—	.0860	.0744	.0628	50	.0700
2	—	64	.0860	.0759	.0657	50	.0700
3	48	—	.0990	.0855	.0719	47	.0785
3	—	56	.0990	.0874	.0758	46	.0810
4	40	—	.1120	.0958	.0795	43	.0890
4	—	48	.1120	.0985	.0849	42	.0935
5	40	—	.1250	.1088	.0925	38	.1015
5	—	44	.1250	.1102	.0955	37	.1040
6	32	—	.1380	.1177	.0974	36	.1065
6	—	40	.1380	.1218	.1055	33	.1130
8	32	—	.1640	.1437	.1234	29	.1360
8	—	36	.1640	.1460	.1279	29	.1360
10	24	—	.1900	.1629	.1359	26	.1470
10	—	32	.1900	.1697	.1494	21	.1590
12	24	—	.2160	.1889	.1619	16	.1770
12	—	28	.2160	.1928	.1696	15	.1800
1/4"	20	—	.2500	.2175	.1850	7	.2010
1/4"	—	28	.2500	.2268	.2036	3	.2130
5/16"	18	—	.3125	.2764	.2403	F	.2570
5/16"	—	24	.3125	.2854	.2584	I	.2720
3/8"	16	—	.3750	.3344	.2938	5/16"	.3125
3/8"	—	24	.3750	.3479	.3209	Q	.3320
7/16"	14	—	.4375	.3911	.3447	U	.3680
7/16"	—	20	.4375	.4050	.3726	25/64"	.3906
1/2"	13	—	.5000	.4500	.4001	27/64"	.4219
1/2"	—	20	.5000	.4675	.4351	29/64"	.4531
9/16"	12	—	.5625	.5084	.4542	31/64"	.4844
9/16"	—	18	.5625	.5264	.4903	33/64"	.5156
5/8"	11	—	.6250	.5660	.5069	17/32"	.5312
5/8"	—	18	.6250	.5889	.5528	37/64"	.5781
3/4"	10	—	.7500	.6850	.6201	21/32"	.6562
3/4"	—	16	.7500	.7094	.6688	11/16"	.6875
7/8"	9	—	.8750	.8028	.7307	49/64"	.7656
7/8"	—	14	.8750	.8286	.7822	13/16"	.8125
1"	8	—	1.0000	.9188	.8376	7/8"	.8750
1"	—	12	1.0000	.9459	.8917	59/64"	.9219
1 1/8"	7	—	1.1250	1.0322	.9394	63/64"	.9844
1 1/8"	—	12	1.1250	1.0709	1.0168	1 3/64"	1.0469
1 1/4"	7	—	1.2500	1.1572	1.0644	1 7/64"	1.1094
1 1/4"	—	12	1.2500	1.1959	1.1418	1 11/64"	1.1719
1 3/8"	6	—	1.3750	1.2667	1.1585	1 7/32"	1.2187
1 3/8"	—	12	1.3750	1.3209	1.2668	1 19/64"	1.2969
1 1/2"	6	—	1.5000	1.3917	1.2835	1 11/32"	1.3437
1 1/2"	—	12	1.5000	1.4459	1.3918	1 27/64"	1.4219
1 3/4"	5	—	1.7500	1.6201	1.4902	1 9/16"	1.5625
2"	4 1/2	—	2.0000	1.8557	1.7113	1 25/32"	1.7812
2 1/4"	4 1/2	—	2.2500	2.1057	1.9613	2 1/32"	2.0313
2 1/2"	4 1/2	—	2.5000	2.3376	2.1752	2 1/4"	2.2500
2 3/4"	4	—	2.7500	2.5876	2.4252	2 1/2"	2.5000
3"	4	—	3.0000	2.8376	2.6752	2 3/4"	2.7500
3 1/4"	4	—	3.2500	3.0876	2.9252	3"	3.0000
3 1/2"	4	—	3.5000	3.3376	3.1752	3 1/4"	3.2500
3 3/4"	4	—	3.7500	3.5876	3.4252	3 1/2"	3.5000
4"	4	—	4.0000	3.7886	3.6752	3 3/4"	3.7500

# PIPE DIMENSIONS

## US AND METRIC

NOMINAL PIPE SIZE	OD	SCHEDULE DESIGNATIONS			WALL THICKNESS		WEIGHT		ID	
		IN. MM	IN. MM	ASME	IN.	MM	LBS/FOOT	KG/METER	IN.	MM
1/8 6	0.405 10.3	10		10S	0.049	1.24	0.19	0.28	0.307	7.82
		STD 40	40S	0.068	1.73	0.24	0.37	0.269	6.84	
		XS 80	80S	0.095	2.41	0.31	0.47	0.215	5.84	
1/4 8	0.540 13.7	10		10S	0.065	1.65	0.33	0.49	0.410	10.40
		STD 40	40S	0.088	2.24	0.43	0.63	0.364	9.22	
		XS 80	80S	0.119	3.02	0.54	0.80	0.302	7.66	
3/8 10	0.675 17.1	10		10S	0.065	1.65	0.42	0.63	0.545	13.80
		STD 40	40S	0.091	2.31	0.57	0.84	0.493	12.48	
		XS 80	80S	0.126	3.20	0.74	1.10	0.423	10.70	
1/2 15	0.840 21.3	5		5S	0.065	1.65	0.54	0.80	0.710	18.00
		10		10S	0.083	2.11	0.67	1.00	0.674	17.08
		STD 40	40S	0.109	2.77	0.85	1.27	0.622	15.76	
		XS 80	80S	0.147	3.73	1.09	1.62	0.546	13.84	
		160		0.188	4.78	1.31	1.95	0.464	11.74	
3/4 20	1.050 26.7	XX			0.294	7.47	1.72	2.55	0.252	6.36
		5		5S	0.065	1.65	0.69	1.03	0.920	23.40
		10		10S	0.083	2.11	0.86	1.28	0.884	22.48
		STD 40	40S	0.113	2.87	1.13	1.69	0.824	20.96	
		XS 80	80S	0.154	3.91	1.48	2.20	0.742	18.88	
1 25	1.315 33.4	160			0.219	5.56	1.95	2.90	0.612	15.58
		XX			0.308	7.82	2.44	3.64	0.434	11.06
		5		5S	0.065	1.65	0.87	1.29	1.185	30.10
		10		10S	0.109	2.77	1.41	2.09	1.097	27.86
		STD 40	40S	0.133	3.38	1.68	2.50	1.049	26.64	
1-1/4 32	1.660 42.2	XS 80	80S	0.179	4.55	2.17	3.24	0.957	24.30	
		160			0.250	6.35	2.85	4.24	0.815	20.70
		XX			0.358	9.09	3.66	5.45	0.599	15.22
		5		5S	0.065	1.65	1.11	1.65	1.530	38.90
		10		10S	0.109	2.77	1.81	2.69	1.442	36.66
1-1/2 40	1.900 48.3	STD 40	40S	0.140	3.56	2.27	3.39	1.380	35.08	
		XS 80	80S	0.191	4.85	3.00	4.47	1.278	32.50	
		160			0.250	6.35	3.77	5.61	1.160	29.50
		XX			0.382	9.70	5.22	7.77	0.896	22.80
		5		5S	0.065	1.65	1.28	1.90	1.770	45.00
2 50	2.375 60.3	10		10S	0.109	2.77	2.09	3.11	1.682	42.76
		STD 40	40S	0.145	3.68	2.72	4.05	1.610	40.94	
		XS 80	80S	0.200	5.08	3.63	5.41	1.500	38.14	
		160			0.281	7.14	4.86	7.25	1.338	34.02
		XX			0.400	10.15	6.41	9.55	1.100	28.00
2-1/2 65	2.875 73.0	5		5S	0.065	1.65	1.61	2.39	2.245	57.00
		10		10S	0.109	2.77	2.64	3.93	2.157	54.76
		STD 40	40S	0.154	3.91	3.66	5.44	2.067	52.48	
		XS 80	80S	0.218	5.54	5.03	7.48	1.939	49.22	
		160			0.344	8.74	7.47	11.11	1.687	42.82
3 80	3.500 88.9	XX			0.436	11.07	9.04	13.44	1.503	38.16
		5		5S	0.083	2.11	2.48	3.69	2.709	68.78
		10		10S	0.120	3.05	3.53	5.26	2.635	66.90
		STD 40	40S	0.203	5.16	5.80	8.63	2.469	62.68	
		XS 80	80S	0.276	7.01	7.67	11.41	2.323	58.98	
3-1/2 90	4.000 101.6	160			0.375	9.53	10.02	14.92	2.125	53.94
		XX			0.552	14.02	13.71	20.39	1.771	44.96
		5		5S	0.083	2.11	3.03	4.52	3.334	84.68
		10		10S	0.120	3.05	4.34	6.46	3.260	82.80
		STD 40	40S	0.216	5.49	7.58	11.29	3.068	77.92	
4 100	4.500 114.3	XS 80	80S	0.300	7.62	10.26	15.27	2.900	73.66	
		160			0.438	11.13	14.34	21.35	2.624	66.64
		XX			0.600	15.24	18.60	27.68	2.300	58.42
		5		5S	0.083	2.11	3.48	5.18	3.834	97.38
		10		10S	0.120	3.05	4.98	7.41	3.760	95.50
4-1/2 115	5.000 127.0	STD 40	40S	0.226	5.74	9.12	13.57	3.548	90.12	
		XS 80	80S	0.318	8.08	12.52	18.64	3.364	85.44	
		160			0.531	13.49	22.53	33.54	3.438	87.32
		XX			0.674	17.12	27.57	41.03	3.152	80.06
		STD 40	40S	0.247	6.27	12.55	18.67	4.506	114.46	
4-1/2 115	5.000 127.0	XS 80	80S	0.355	9.02	17.63	26.24	4.290	108.96	
		160			0.531	13.49	22.53	33.54	3.438	87.32
		XX			0.710	18.03	32.56	48.45	3.580	90.94
		STD 40	40S	0.237	6.02	10.80	16.08	4.026	102.26	
		XS 80	80S	0.337	8.56	15.00	22.32	3.826	97.18	
120			0.438	11.13	19.02	28.32	3.624	92.04		
160			0.531	13.49	22.53	33.54	3.438	87.32		
XX			0.674	17.12	27.57	41.03	3.152	80.06		
4-1/2 115	5.000 127.0	STD 40 XS 80 XX	40S 80S	0.247 0.355 0.710	6.27 9.02 18.03	12.55 17.63 32.56	18.67 26.24 48.45	4.506 4.290 3.580	114.46 108.96 90.94	

# AMERICAN WIRE GAUGE

## CONDUCTOR SIZE TABLE

AWG	Diameter [inches]	Diameter [mm]	Area [mm <sup>2</sup> ]	Resistance [Ohms/1000 ft]	Resistance [Ohms / km]	Max Current [Amperes]	Max Frequency
0000 (4/0)	0.46	11.684	107	0.049	0.16072	302	125 Hz
000 (3/0)	0.4096	10.40384	85	0.0618	0.202704	239	160 Hz
00 (2/0)	0.3648	9.26592	67.4	0.0779	0.255512	190	200 Hz
0 (1/0)	0.3249	8.25246	53.5	0.0983	0.322424	150	250 Hz
1	0.2893	7.34822	42.4	0.1239	0.406392	119	325 Hz
2	0.2576	6.54304	33.6	0.1563	0.512664	94	410 Hz
3	0.2294	5.82676	26.7	0.197	0.64616	75	500 Hz
4	0.2043	5.18922	21.2	0.2485	0.81508	60	650 Hz
5	0.1819	4.62026	16.8	0.3133	1.027624	47	810 Hz
6	0.162	4.1148	13.3	0.3951	1.295928	37	1100 Hz
7	0.1443	3.66522	10.5	0.4982	1.634096	30	1300 Hz
8	0.1285	3.2639	8.37	0.6282	2.060496	24	1650 Hz
9	0.1144	2.90576	6.63	0.7921	2.598088	19	2050 Hz
10	0.1019	2.58826	5.26	0.9989	3.276392	15	2600 Hz
11	0.0907	2.30378	4.17	1.26	4.1328	12	3200 Hz
12	0.0808	2.05232	3.31	1.588	5.20864	9.3	4150 Hz
13	0.072	1.8288	2.62	2.003	6.56984	7.4	5300 Hz
14	0.0641	1.62814	2.08	2.525	8.282	5.9	6700 Hz
15	0.0571	1.45034	1.65	3.184	10.44352	4.7	8250 Hz
16	0.0508	1.29032	1.31	4.016	13.17248	3.7	11 k Hz
17	0.0453	1.15062	1.04	5.064	16.60992	2.9	13 k Hz
18	0.0403	1.02362	0.823	6.385	20.9428	2.3	17 kHz
19	0.0359	0.91186	0.653	8.051	26.40728	1.8	21 kHz
20	0.032	0.8128	0.518	10.15	33.292	1.5	27 kHz
21	0.0285	0.7239	0.41	12.8	41.984	1.2	33 kHz
22	0.0254	0.64516	0.326	16.14	52.9392	0.92	42 kHz
23	0.0226	0.57404	0.258	20.36	66.7808	0.729	53 kHz
24	0.0201	0.51054	0.205	25.67	84.1976	0.577	68 kHz
25	0.0179	0.45466	0.162	32.37	106.1736	0.457	85 kHz
26	0.0159	0.40386	0.129	40.81	133.8568	0.361	107 kHz
27	0.0142	0.36068	0.102	51.47	168.8216	0.288	130 kHz
28	0.0126	0.32004	0.081	64.9	212.872	0.226	170 kHz
29	0.0113	0.28702	0.0642	81.83	268.4024	0.182	210 kHz
30	0.01	0.254	0.0509	103.2	338.496	0.142	270 kHz
31	0.0089	0.22606	0.0404	130.1	426.728	0.113	340 kHz
32	0.008	0.2032	0.032	164.1	538.248	0.091	430 kHz
33	0.0071	0.18034	0.0254	206.9	678.632	0.072	540 kHz
34	0.0063	0.16002	0.0201	260.9	855.752	0.056	690 kHz
35	0.0056	0.14224	0.016	329	1079.12	0.044	870 kHz
36	0.005	0.127	0.0127	414.8	1360	0.035	1100 kHz
37	0.0045	0.1143	0.01	523.1	1715	0.0289	1350 kHz
38	0.004	0.1016	0.00797	659.6	2163	0.0228	1750 kHz
39	0.0035	0.0889	0.00632	831.8	2728	0.0175	2250 kHz
40	0.0031	0.07874	0.00501	1049	3440	0.0137	2900 kHz

**Current (ampacity) Notes:** The current ratings shown in the table are for power transmission and have been determined using the rule of 1 amp per 700 circular mils, which is a very conservative rating

# FRACTION - DECIMAL

## CONVERSION CHART

	IN	MM
	$\frac{1}{64}$	.015625 .3969
$\frac{1}{32}$	$\frac{2}{64}$	.03125 .7938
	$\frac{3}{64}$	.046875 1.1906
$\frac{1}{16}$	$\frac{5}{64}$	.0625 1.5875
	$\frac{7}{64}$	.078125 1.9844
$\frac{3}{32}$	$\frac{9}{64}$	.09375 2.3813
	$\frac{11}{64}$	.109375 2.7781
$\frac{1}{8}$	$\frac{13}{64}$	.125 3.1750
	$\frac{15}{64}$	.140625 3.5719
$\frac{5}{32}$	$\frac{17}{64}$	.15625 3.9688
	$\frac{19}{64}$	.171875 4.3656
$\frac{3}{16}$	$\frac{21}{64}$	.1875 4.7625
	$\frac{23}{64}$	.203125 5.1594
$\frac{7}{32}$	$\frac{25}{64}$	.21875 5.5563
	$\frac{27}{64}$	.234375 5.9531
$\frac{1}{4}$	$\frac{29}{64}$	.250 6.3500
	$\frac{31}{64}$	.265625 6.7469
$\frac{9}{32}$		.28125 7.1438
		.296875 7.5406
$\frac{5}{16}$		.3125 7.9375
		.328125 8.3344
$\frac{11}{32}$		.34375 8.7313
		.359375 9.1282
$\frac{3}{8}$		.375 9.5250
		.390625 9.9219
$\frac{13}{32}$		.40625 10.3188
		.421875 10.7157
$\frac{7}{16}$		.4375 11.1125
		.453125 11.5094
$\frac{15}{32}$		.46875 11.9063
		.484375 12.3032
$\frac{1}{2}$		.500 12.7001

	IN	MM
	$\frac{33}{64}$	.515625 13.096
$\frac{17}{32}$	$\frac{35}{64}$	.53125 13.493
	$\frac{37}{64}$	.546875 13.890
$\frac{9}{16}$	$\frac{39}{64}$	.5625 14.287
	$\frac{41}{64}$	.578125 14.684
$\frac{19}{32}$	$\frac{43}{64}$	.59375 15.081
	$\frac{45}{64}$	.609375 15.478
$\frac{5}{8}$	$\frac{47}{64}$	.625 15.875
	$\frac{49}{64}$	.640625 16.271
$\frac{21}{32}$		.65625 16.668
		.671875 17.065
$\frac{11}{16}$		.6875 17.462
		.703125 17.859
$\frac{23}{32}$		.71875 18.256
		.734375 18.653
$\frac{3}{4}$		.750 19.050
		.765625 19.447
$\frac{25}{32}$		.78125 19.843
		.796875 20.240
$\frac{13}{16}$		.8125 20.6375
		.828125 21.0345
$\frac{27}{32}$		.84375 21.431
		.859375 21.8282
$\frac{7}{8}$		.875 22.2251
		.890625 22.6220
$\frac{29}{32}$		.90625 23.0188
		.921875 23.4157
$\frac{15}{16}$		.9375 23.8126
		.953125 24.2095
$\frac{31}{32}$		.96875 24.6063
		.984375 25.0032
1		1.000 25.4001

# SHEET METAL GAUGE CHART

Gauge	Steel	Galvanized Steel	Stainless Steel	Aluminium	Electrical Steel
	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)
3	0.2391 (6.07)	—	—	—	—
4	0.2242 (5.69)	—	—	—	—
5	0.2092 (5.31)	—	—	—	—
6	0.1943 (4.94)	—	—	0.162 (4.1)	—
7	0.1793 (4.55)	—	0.1875 (4.76)	0.1443 (3.67)	—
8	0.1644 (4.18)	0.1681 (4.27)	0.1719 (4.37)	0.1285 (3.26)	—
9	0.1495 (3.80)	0.1532 (3.89)	0.1563 (3.97)	0.1144 (2.91)	—
10	0.1345 (3.42)	0.1382 (3.51)	0.1406 (3.57)	0.1019 (2.59)	—
11	0.1196 (3.04)	0.1233 (3.13)	0.1250 (3.18)	0.0907 (2.30)	—
12	0.1046 (2.66)	0.1084 (2.75)	0.1094 (2.78)	0.0808 (2.05)	—
13	0.0897 (2.28)	0.0934 (2.37)	0.094 (2.4)	0.072 (1.8)	—
14	0.0747 (1.90)	0.0785 (1.99)	0.0781 (1.98)	0.0641 (1.63)	—
15	0.0673 (1.71)	0.0710 (1.80)	0.07 (1.8)	0.057 (1.4)	—
16	0.0598 (1.52)	0.0635 (1.61)	0.0625 (1.59)	0.0508 (1.29)	0.0625 (1.59)
17	0.0538 (1.37)	0.0575 (1.46)	0.056 (1.4)	0.045 (1.1)	0.0560 (1.42)
18	0.0478 (1.21)	0.0516 (1.31)	0.0500 (1.27)	0.0403 (1.02)	0.0500 (1.27)
19	0.0418 (1.06)	0.0456 (1.16)	0.044 (1.1)	0.036 (0.91)	0.0453 (1.15)
20	0.0359 (0.91)	0.0396 (1.01)	0.0375 (0.95)	0.0320 (0.81)	0.0375 (0.952)
21	0.0329 (0.84)	0.0366 (0.93)	0.034 (0.86)	0.028 (0.71)	0.0340 (0.860)
22	0.0299 (0.76)	0.0336 (0.85)	0.031 (0.79)	0.025 (0.64)	0.0310 (0.787)
23	0.0269 (0.68)	0.0306 (0.78)	0.028 (0.71)	0.023 (0.58)	0.0280 (0.711)
24	0.0239 (0.61)	0.0276 (0.70)	0.025 (0.64)	0.02 (0.51)	0.0250 (0.635)
25	0.0209 (0.53)	0.0247 (0.63)	0.022 (0.56)	0.018 (0.46)	0.0220 (0.559)
26	0.0179 (0.45)	0.0217 (0.55)	0.019 (0.48)	0.017 (0.43)	0.0185 (0.470)
27	0.0164 (0.42)	0.0202 (0.51)	0.017 (0.43)	0.014 (0.36)	0.0170 (0.432)
28	0.0149 (0.38)	0.0187 (0.47)	0.016 (0.41)	0.0126 (0.32)	0.0155 (0.394)
29	0.0135 (0.34)	0.0172 (0.44)	0.014 (0.36)	0.0113 (0.29)	0.0140 (0.356)
30	0.0120 (0.30)	0.0157 (0.40)	0.013 (0.33)	0.0100 (0.25)	0.0125 (0.318)
31	0.0105 (0.27)	0.0142 (0.36)	0.011 (0.28)	0.0089 (0.23)	0.0100 (0.254)
32	0.0097 (0.25)	—	—	—	—
33	0.0090 (0.23)	—	—	—	—
34	0.0082 (0.21)	—	—	—	—
35	0.0075 (0.19)	—	—	—	—
36	0.0067 (0.17)	—	—	—	—
37	0.0064 (0.16)	—	—	—	—
38	0.0060 (0.15)	—	—	—	—
33	0.0071	0.18034	0.0254	206.9	678.632
34	0.0063	0.16002	0.0201	260.9	855.752
35	0.0056	0.14224	0.016	329	1079.12
36	0.005	0.127	0.0127	414.8	1360
37	0.0045	0.1143	0.01	523.1	1715
38	0.004	0.1016	0.00797	659.6	2163
39	0.0035	0.0889	0.00632	831.8	2728
40	0.0031	0.07874	0.00501	1049	3440







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