

PROFESSIONAL PARTNER EDITION



EXTENDED REACH TOGGLE JAW ASSEMBLIES AND SWAGE TERMINALS FOR COMPACT STRAND

MANUFACTURER OF QUALITY HARDWARE



WIRE RIGGING SUPPLEMENTAL CATALOG

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 Phone – 800-346-4296
 Fax – 800-441-4296

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Return address:

Hayn Enterprises
 51 Inwood Road
 Rocky Hill, CT 06067 USA

Attn: Returns Department – RMA# _____

Warranty:

Hayn Marine hardware manufactured by Hayn Enterprises, LLC is guaranteed at time of shipment to be free of defects in material and craftsmanship and only when used for the purpose intended. Hayn does not accept responsibility for product used in applications where safe working loads are exceeded, product has been improperly installed, and/or product has been modified.

Hayn makes no representations for suitability to a particular application.

Warranty is limited to repair or replacement, at Hayn’s discretion, of the warranted part only.

Hayn Enterprises, LLC does not, under any circumstance, assume responsibility for any incidental damages incurred in connection with the use of its products. All hardware manufactured by Hayn Enterprises, LLC carries a limited lifetime warranty.



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EXTENDED REACH TOGGLES AND COMPACT STRAND SUPPLEMENT CATALOG

PART FEATURE LETTER DESIGNATION KEY

A - Jaw Depth

B - Body Diameter

C - Fully Closed (Adjustment Range)

D - Pin or Hole Diameter

E - Jaw Gap

F - Jaw Width or Eye Width or Fork Diameter

G - Grip Length

H - Hardware Factor

HD - Head Diameter

HT - Head Thickness

J - Eye Width / Boss Width

L - Length

O - Fully Open (Adjustment Range)

P - Thread Size, Pitch, and Direction

R - Retaining Pin Hole

RAD - Radius

T - Thread Length

W - Wire Diameter

SWAGE DIMENSIONS TABLE

Reference table indicates swage outer dimensions before and after swaging with the correct Die Set.

Wire Diameter	Before Swage O.D.	After Swage O.D.	Hole Diameter	Hole Depth (Rigging)
1/16"	0.218 - 0.213	0.190 - 0.185	0.078	7/8"
3/32"	0.218 - 0.213	0.190 - 0.185	0.109	1 1/4"
1/8"	0.250 - 0.245	0.219 - 0.214	0.141	1 1/2"
5/32"	0.297 - 0.292	0.250 - 0.245	0.172	1 3/4"
3/16"	0.359 - 0.354	0.313 - 0.308	0.203	2"
7/32"	0.427 - 0.422	0.375 - 0.368	0.234	2 1/4"
1/4"	0.494 - 0.489	0.438 - 0.431	0.265	2 1/2"
9/32"	0.563 - 0.558	0.500 - 0.492	0.297	2 3/4"
5/16"	0.635 - 0.630	0.563 - 0.554	0.328	3"
3/8"	0.703 - 0.698	0.625 - 0.618	0.390	3 1/2"
7/16"	0.781 - 0.773	0.688 - 0.680	0.453	4 1/2"
1/2"	0.844 - 0.839	0.750 - 0.741	0.531	5"
9/16"	0.984 - 0.979	0.875 - 0.866	0.593	5 1/2"
5/8"	1.109 - 1.104	1.000 - 0.990	0.656	6 1/4"
3/4"	1.359 - 1.354	1.250 - 1.238	0.781	7 1/2"
7/8"	1.593 - 1.583	1.437 - 1.425	0.933	9 5/8"
1"	1.812 - 1.802	1.625 - 1.613	1.062	11 1/2"

Wire Diameter	Before Swage O.D.	After Swage O.D.	Hole Diameter	Hole Depth (Rigging)
1.5 mm	0.218 - 0.213	0.190 - 0.185	-	7/8"
2.5 mm	0.218 - 0.213	0.190 - 0.185	0.109	1 1/4"
3 mm	0.250 - 0.245	0.219 - 0.214	0.132	1 1/2"
4 mm	0.297 - 0.292	0.250 - 0.245	0.172	1 3/4"
5 mm	0.359 - 0.354	0.313 - 0.308	0.210	2"
5.5 mm	0.427 - 0.422	0.375 - 0.368	0.232	2 1/4"
6 mm	0.494 - 0.489	0.438 - 0.431	0.252	2 1/2"
7 mm	0.563 - 0.558	0.500 - 0.492	0.297	2 3/4"
8 mm	0.635 - 0.630	0.563 - 0.554	0.328	3"
9-10 mm	0.703 - 0.698	0.625 - 0.618	0.413	3 1/2"
11 mm	0.781 - 0.773	0.688 - 0.680	0.453	4 1/2"
12 mm	0.844 - 0.839	0.750 - 0.741	0.500	5"
14 mm	0.984 - 0.979	0.875 - 0.866	0.593	5 1/2"
16 mm	1.109 - 1.104	1.000 - 0.990	0.656	6 1/4"
19 mm	1.359 - 1.354	1.250 - 1.238	0.781	7 1/2"
22 mm	1.593 - 1.583	1.437 - 1.425	0.933	9 5/8"
26 mm	1.812 - 1.802	1.625 - 1.613	1.062	11 1/2"

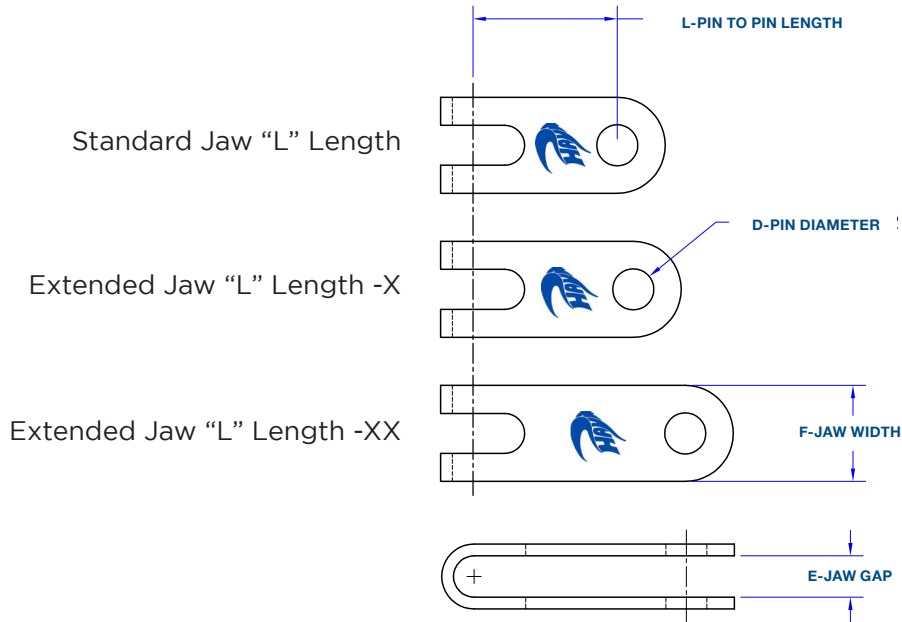
IMPORTANT: Contained in this catalog (starting on page 17) are swage wire terminals that Hayn has engineered exclusively for use with "Compact Strand" wire utilized in the marine industry. These wires are commonly know as "Dyform" or "Compact Strand" and offer considerably greater breaking strengths than traditional 1X19 strand wire ropes. Along with the "Compact Strand" specific terminal ends, Hayn has developed a swaging technique engineered to ensure the bond between the terminal and wire rope is maximized. See page 18 for swaging technique information.

EXTENDED REACH TOGGLE JAW ASSEMBLIES INDEX

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EXTENDED REACH TOGGLE JAW DESIGN BASIS

PREFACE: This catalog section contains rigging assemblies that utilize “Extended Reach Toggle Jaws” in various “A - JAW DEPTH” options. Additional configurations are available upon request for use with “Compact Strand” Studs, Marine Eyes, and Hi-MOD Compression Terminals.

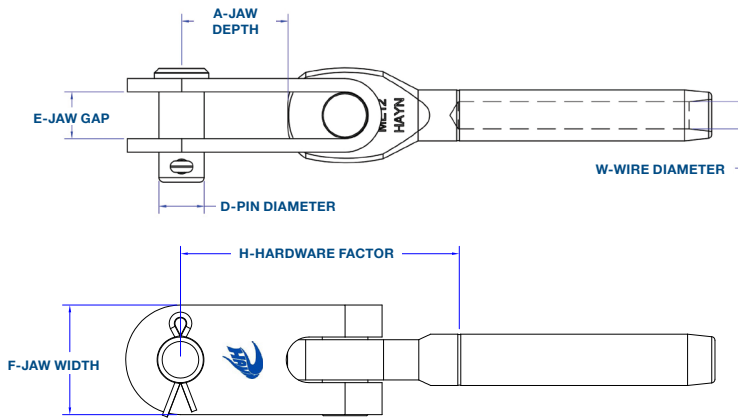


Toggle Design Basis	Assembly Suffix	D - Pin Ø	L - Pin to Pin	A - Increased Jaw Depth Over Standard Toggle	E - Jaw Gap	F - Jaw Width	Weight lbs.
38EST (Standard)	n/a	3/8"	1 1/4"	-	3/8"	7/8"	0.09
38EST-X	-X	3/8"	1 5/8"	3/8"	3/8"	7/8"	0.12
12EST (Standard)	n/a	1/2"	1 11/16"	-	1/2"	1 5/32"	0.19
12EST-X	-X	1/2"	2"	5/16"	1/2"	1 5/32"	0.26
12EST-XX	-XX	1/2"	2 3/16"	1/2"	1/2"	1 5/32"	0.28
58EST (Standard)	n/a	5/8"	2 1/4"	-	5/8"	1 1/2"	0.40
58EST-X	-X	5/8"	2 1/2"	1/4"	5/8"	1 1/2"	0.43
58EST-XX	-XX	5/8"	3 5/16"	1 1/16"	5/8"	1 1/2"	0.56
34EST (Standard)	n/a	3/4"	2 11/16"	-	3/4"	1 7/8"	0.79
34EST-X	-X	3/4"	3"	5/16"	3/4"	1 7/8"	0.88
34EST-XX	-XX	3/4"	3 1/2"	13/16"	3/4"	1 7/8"	1.0
34EST-XXX	-XXX	3/4"	3 13/16"	1 1/8"	3/4"	1 7/8"	1.1

NOTE: Table above for reference only. The toggle straps listed above are not sold separately and are referenced only for the dimensional design basis which makes up the “Extended Reach Toggle Assemblies”.

SWAGE RIGGING TOGGLES - EXT. JAW

316 Stainless Steel



Imperial Wire Sizes

Part #	W-Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	H-Hardware Factor	Weight lbs.
38RT316-X	3/16"	3/8"	1 1/8"	3/8"	7/8"	2 17/32"	0.28
38RT732-X	7/32"	3/8"	1 1/8"	3/8"	7/8"	2 15/32"	0.39
38RT14-X	1/4"	3/8"	1 3/16"	3/8"	7/8"	2 15/32"	0.44
12RT14	1/4"	1/2"	1 1/16"	1/2"	1 5/32"	2 13/16"	0.56
12RT14-X	1/4"	1/2"	1 3/8"	1/2"	1 5/32"	3 1/8"	0.58
12RT14-XX	1/4"	1/2"	1 9/16"	1/2"	1 5/32"	3 5/16"	0.61
12RT932	9/32"	1/2"	1 1/16"	1/2"	1 5/32"	2 3/4"	0.64
12RT932-X	9/32"	1/2"	1 3/8"	1/2"	1 5/32"	3 1/16"	0.66
12RT932-XX	9/32"	1/2"	1 9/16"	1/2"	1 5/32"	3 1/4"	0.69
12RT516	5/16"	1/2"	1 1/16"	1/2"	1 5/32"	2 7/8"	0.74
12RT516-X	5/16"	1/2"	1 3/8"	1/2"	1 5/32"	3 3/16"	0.78
12RT516-XX	5/16"	1/2"	1 9/16"	1/2"	1 5/32"	3 3/8"	0.78
58RT516	5/16"	5/8"	1 7/16"	5/8"	1 1/2"	3 9/16"	1.12
58RT516-X	5/16"	5/8"	1 11/16"	5/8"	1 1/2"	3 13/16"	1.20
58RT516-XX	5/16"	5/8"	2 1/2"	5/8"	1 1/2"	4 5/8"	1.35
58RT38	3/8"	5/8"	1 7/16"	5/8"	1 1/2"	3 13/16"	1.25
58RT38-X	3/8"	5/8"	1 11/16"	5/8"	1 1/2"	4 1/16"	1.27
58RT38-XX	3/8"	5/8"	2 1/2"	5/8"	1 1/2"	4 7/8"	1.29
34RT716	7/16"	3/4"	1 3/4"	3/4"	1 7/8"	4 5/8"	2.23
34RT716-X	7/16"	3/4"	2 1/16"	3/4"	1 7/8"	4 15/16"	2.25
34RT716-XX	7/16"	3/4"	2 9/16"	3/4"	1 7/8"	5 7/16"	2.29
34RT716-XXX	7/16"	3/4"	2 7/8"	3/4"	1 7/8"	5 3/4"	2.35
34RT12	1/2"	3/4"	1 3/4"	3/4"	1 7/8"	4 15/16"	2.29
34RT12-X	1/2"	3/4"	2 1/16"	3/4"	1 7/8"	5 1/4"	2.25
34RT12-XX	1/2"	3/4"	2 9/16"	3/4"	1 7/8"	5 3/4"	2.79
34RT12-XXX	1/2"	3/4"	2 7/8"	3/4"	1 7/8"	6 1/16"	2.35

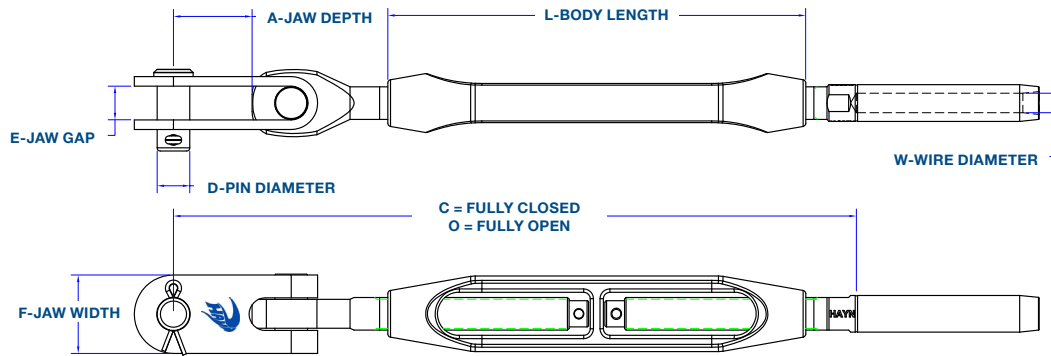
Metric Wire Sizes

38RTM05	5mm	3/8"	3/4"	3/8"	7/8"	2 5/32"	0.24
38RTM05-X	5mm	3/8"	1 1/8"	3/8"	7/8"	2 17/32"	0.27
38RTM06	6mm	3/8"	13/16"	3/8"	7/8"	2 3/32"	0.31
38RTM06-X	6mm	3/8"	1 3/16"	3/8"	7/8"	2 15/32"	0.34
12RTM06	6mm	1/2"	1 1/16"	1/2"	1 5/32"	2 13/16"	0.56
12RTM06-X	6mm	1/2"	1 3/8"	1/2"	1 5/32"	3 1/8"	0.58
12RTM06-XX	6mm	1/2"	1 9/16"	1/2"	1 5/32"	3 5/16"	0.61
12RTM07	7mm	1/2"	1 1/16"	1/2"	1 5/32"	2 3/4"	0.64
12RTM07-X	7mm	1/2"	1 3/8"	1/2"	1 5/32"	3 1/16"	0.66
12RTM07-XX	7mm	1/2"	1 9/16"	1/2"	1 5/32"	3 1/4"	0.69
12RTM08	8mm	1/2"	1 1/16"	1/2"	1 5/32"	2 7/8"	0.74
12RTM08-X	8mm	1/2"	1 3/8"	1/2"	1 5/32"	3 3/16"	0.78
12RTM08-XX	8mm	1/2"	1 9/16"	1/2"	1 5/32"	3 3/8"	0.78
58RTM08	8mm	5/8"	1 7/16"	5/8"	1 1/2"	3 9/16"	1.12
58RTM08-X	8mm	5/8"	1 11/16"	5/8"	1 1/2"	3 13/16"	1.20
58RTM08-XX	8mm	5/8"	2 1/2"	5/8"	1 1/2"	4 5/8"	1.35
58RTM10	10mm	5/8"	1 7/16"	5/8"	1 1/2"	3 13/16"	1.25
58RTM10-X	10mm	5/8"	1 11/16"	5/8"	1 1/2"	4 1/16"	1.27
58RTM10-XX	10mm	5/8"	2 1/2"	5/8"	1 1/2"	4 7/8"	1.29
34RTM12	12mm	3/4"	1 3/4"	3/4"	1 7/8"	4 15/16"	2.25
34RTM12-X	12mm	3/4"	2 1/16"	3/4"	1 7/8"	5 1/4"	2.25
34RTM12-XX	12mm	3/4"	2 9/16"	3/4"	1 7/8"	5 3/4"	2.79
34RTM12-XXX	12mm	3/4"	2 7/8"	3/4"	1 7/8"	6 1/16"	2.35

EYE TOGGLE JAW TO SWAGE

OPEN BODY - EXT. JAW

316 Stainless Steel / Chromed Bronze Turnbuckle Body



SMART PART # KEY toggle pin size | Eye Toggle Forged Bronze | wire size | - extension length suffix

Imperial Wire Sizes

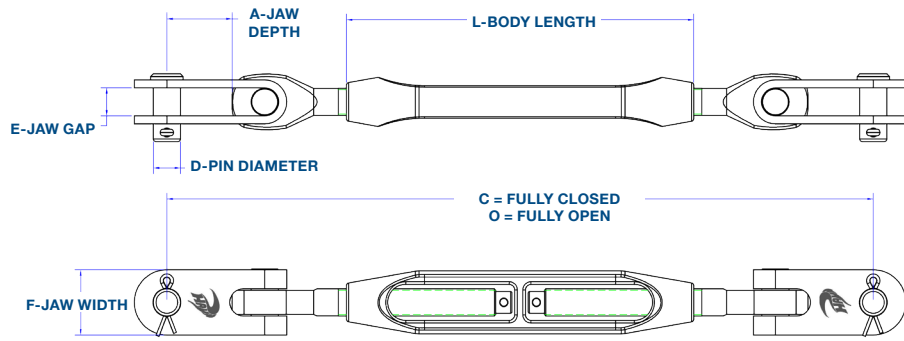
Part #	W-Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38ETFB316-X	3/16"	3/8-24	3/8"	1'-0 9/16"	9 1/16"	5 1/2"	1 1/8"	3/8"	7/8"	0.70
38ETFB732-X	7/32"	3/8-24	3/8"	1'-0 9/16"	9 1/16"	5 1/2"	1 1/8"	3/8"	7/8"	0.73
38ETFB14-X	1/4"	3/8-24	3/8"	1'-0 5/8"	9 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.78
12ETFB14	1/4"	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.53
12ETFB14-X	1/4"	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.75
12ETFB14-XX	1/4"	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.77
12ETFB932	9/32"	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.59
12ETFB932-X	9/32"	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.81
12ETFB932-XX	9/32"	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.83
12ETFB516	5/16"	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.67
12ETFB516-X	5/16"	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.89
12ETFB516-XX	5/16"	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.91
58ETFB516	5/16"	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.71
58ETFB516-X	5/16"	5/8-18	5/8"	1'-6 5/16"	1'-1 5/16"	8"	1 3/4"	5/8"	1 1/2"	3.13
58ETFB516-XX	5/16"	5/8-18	5/8"	1'-7 1/8"	1'-2 1/8"	8"	2 9/16"	5/8"	1 1/2"	3.26
58ETFB38	3/8"	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.80
58ETFB38-X	3/8"	5/8-18	5/8"	1'-6 5/16"	1'-1 5/16"	8"	1 3/4"	5/8"	1 1/2"	3.22
58ETFB38-XX	3/8"	5/8-18	5/8"	1'-7 1/8"	1'-2 1/8"	8"	2 9/16"	5/8"	1 1/2"	3.35
34ETFB716	7/16"	3/4-16	3/4"	1'-10"	1'-4"	10"	1 7/8"	3/4"	1 7/8"	5.36
34ETFB716-X	7/16"	3/4-16	3/4"	1'-10 5/16"	1'-4 5/16"	10"	2 3/16"	3/4"	1 7/8"	6.24
34ETFB716-XX	7/16"	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	10"	2 11/16"	3/4"	1 7/8"	6.36
34ETFB716-XXX	7/16"	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	10"	3"	3/4"	1 7/8"	6.45
34ETFB12	1/2"	3/4-16	3/4"	1'-10"	1'-4"	10"	1 7/8"	3/4"	1 7/8"	5.44
34ETFB12-X	1/2"	3/4-16	3/4"	1'-10 5/16"	1'-4 5/16"	10"	2 3/16"	3/4"	1 7/8"	6.32
34ETFB12-XX	1/2"	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	10"	2 11/16"	3/4"	1 7/8"	6.44
34ETFB12-XXX	1/2"	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	10"	3"	3/4"	1 7/8"	6.53

Metric Wire Sizes

38ETFBM05-X	5mm	3/4-24	3/8"	1'-0 9/16"	9 1/16"	5 1/2"	1 1/8"	3/8"	7/8"	0.70
38ETFBM06-X	6mm	3/8-24	3/8"	1'-0 5/8"	9 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.78
12ETFBM06	6mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.53
12ETFBM06-X	6mm	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.75
12ETFBM06-XX	6mm	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.77
12ETFBM07	7mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.59
12ETFBM07-X	7mm	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.81
12ETFBM07-XX	7mm	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.83
12ETFBM08	8mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.67
12ETFBM08-X	8mm	1/2-20	1/2"	1'-2 15/16"	10 15/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.89
12ETFBM08-XX	8mm	1/2-20	1/2"	1'-3 1/8"	11 1/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.91
58ETFBM08	8mm	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.71
58ETFBM08-X	8mm	5/8-18	5/8"	1'-6 5/16"	1'-1 5/16"	8"	1 3/4"	5/8"	1 1/2"	3.13
58ETFBM08-XX	8mm	5/8-18	5/8"	1'-7 1/8"	1'-2 1/8"	8"	2 9/16"	5/8"	1 1/2"	3.26
58ETFBM10	10mm	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.80
58ETFBM10-X	10mm	5/8-18	5/8"	1'-6 5/16"	1'-1 5/16"	8"	1 3/4"	5/8"	1 1/2"	3.22
58ETFBM10-XX	10mm	5/8-18	5/8"	1'-7 1/8"	1'-2 1/8"	8"	2 9/16"	5/8"	1 1/2"	3.35
34ETFBM12	12mm	3/4-16	3/4"	1'-10"	1'-4"	10"	1 7/8"	3/4"	1 7/8"	5.44
34ETFBM12-X	12mm	3/4-16	3/4"	1'-10 5/16"	1'-4 5/16"	10"	2 3/16"	3/4"	1 7/8"	6.32
34ETFBM12-XX	12mm	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	10"	2 11/16"	3/4"	1 7/8"	6.44
34ETFBM12-XXX	12mm	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	10"	3"	3/4"	1 7/8"	6.53

EYE TOGGLE JAW TO EYE TOGGLE JAW - OPEN BODY - EXT. JAW

316 Stainless Steel / Chromed Bronze Turnbuckle Body

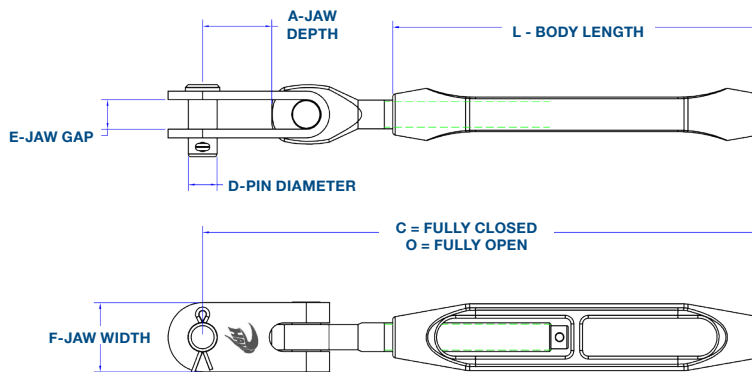


SMART PART # KEY toggle pin size | Eye Toggle Forged Bronze Jaw | - extension length suffix

Part #	Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38ETFBJ	3/16" - 1/4"	3/8-24	3/8"	1'-1 1/2"	10"	5 1/2"	3/4"	3/8"	7/8"	0.82
38ETFBJ-X	3/16" - 1/4"	3/8-24	3/8"	1'-2 1/4"	10 3/4"	5 1/2"	1 1/8"	3/8"	7/8"	0.85
12ETFBJ	1/4" - 5/16"	1/2-20	1/2"	1'-5"	1'-1"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.88
12ETFBJ-X	1/4" - 5/16"	1/2-20	1/2"	1'-5 5/8"	1'-1 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	2.10
12ETFBJ-XX	1/4" - 5/16"	1/2-20	1/2"	1'-6"	1'-2"	6 1/2"	1 5/8"	1/2"	1 5/32"	2.12
58ETFBJ	5/16" - 3/8"	5/8-18	5/8"	1'-9 1/4"	1'-4 1/4"	8"	1 1/2"	5/8"	1 1/2"	3.61
58ETFBJ-X	5/16" - 3/8"	5/8-18	5/8"	1'-9 3/4"	1'-4 3/4"	8"	1 3/4"	5/8"	1 1/2"	4.03
58ETFBJ-XX	5/16" - 3/8"	5/8-18	5/8"	1'-11 3/8"	1'-6 3/8"	8"	2 9/16"	5/8"	1 1/2"	4.16
34ETFBJ	7/16" - 1/2"	3/4-16	3/4"	2'-1 9/16"	1'-7 9/16"	10"	1 7/8"	3/4"	1 7/8"	6.65
34ETFBJ-X	7/16" - 1/2"	3/4-16	3/4"	2'-2 3/16"	1'-8 3/16"	10"	2 3/16"	3/4"	1 7/8"	7.53
34ETFBJ-XX	7/16" - 1/2"	3/4-16	3/4"	2'-3 1/8"	1'-9 3/16"	10"	2 11/16"	3/4"	1 7/8"	7.65
34ETFBJ-XXX	7/16" - 1/2"	3/4-16	3/4"	2'-3 13/16"	1'-9 13/16"	10"	3"	3/4"	1 7/8"	7.74

EYE TOGGLE JAW AND OPEN BODY - EXT. JAW

316 Stainless Steel / Chromed Bronze Turnbuckle Body

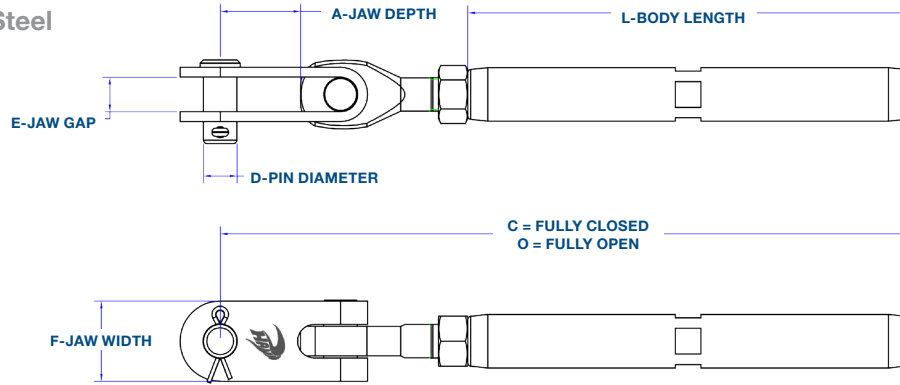


SMART PART # KEY toggle pin size | Eye Forged Bronze Jaw | - extension length suffix

Part #	Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38EFBJ	3/16" - 1/4"	3/8-24	3/8"	9 1/2"	7 3/4"	5 1/2"	3/4"	3/8"	7/8"	0.72
38EFBJ-X	3/16" - 1/4"	3/8-24	3/8"	10 1/8"	8 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.75
12EFBJ	1/4" - 5/16"	1/2-20	1/2"	11 3/4"	9 3/4"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.26
12EFBJ-X	1/4" - 5/16"	1/2-20	1/2"	1' - 1/16"	10 1/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.48
12EFBJ-XX	1/4" - 5/16"	1/2-20	1/2"	1' - 1/4"	10 1/4"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.50
58EFBJ	5/16" - 3/8"	5/8-18	5/8"	1'-2 5/8"	1'-0 1/8"	8"	1 1/2"	5/8"	1 1/2"	2.33
58EFBJ-X	5/16" - 3/8"	5/8-18	5/8"	1'-2 7/8"	1'-0 3/8"	8"	1 3/4"	5/8"	1 1/2"	2.75
58EFBJ-XX	5/16" - 3/8"	5/8-18	5/8"	1' -3 11/16"	1' -1 3/16"	8"	2 9/16"	5/8"	1 1/2"	2.88
34EFBJ	7/16" - 1/2"	3/4-16	3/4"	1'-5 13/16"	1'-2 13/16"	10"	1 7/8"	3/4"	1 7/8"	4.22
34EFBJ-X	7/16" - 1/2"	3/4-16	3/4"	1' -6 1/8"	1' -3 1/8"	10"	2 3/16"	3/4"	1 7/8"	5.10
34EFBJ-XX	7/16" - 1/2"	3/4-16	3/4"	1' -6 5/8"	1' -3 5/8"	10"	2 11/16"	3/4"	1 7/8"	5.22
34EFBJ-XXX	7/16" - 1/2"	3/4-16	3/4"	1' -6 15/16"	1' -3 15/16"	10"	3"	3/4"	1 7/8"	5.31

EYE TOGGLE JAW AND CLOSED BODY - EXT. JAW

316 Stainless Steel

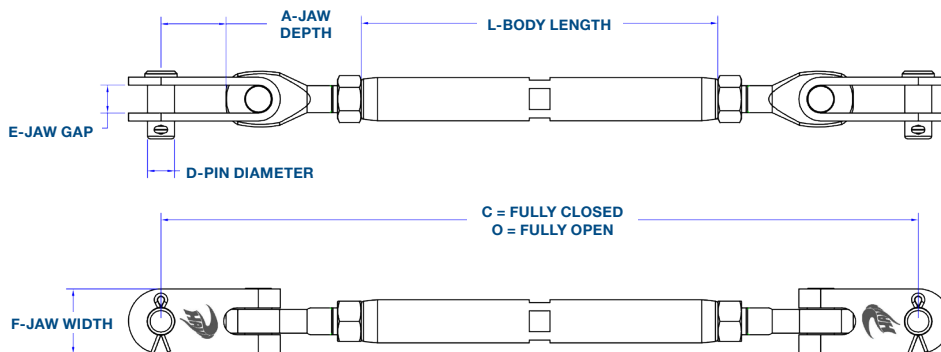


SMART PART # KEY toggle pin size | Eye Tubular Turnbuckle Jaw Toggle | - extension length suffix

Part #	Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38ETTJT	3/16" - 1/4"	3/8-24	3/8"	9 7/8"	8"	5 1/2"	3/4"	3/8"	7/8"	0.48
38ETTJT-X	3/16" - 1/4"	3/8-24	3/8"	10 1/4"	8 3/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.51
12ETTJT	1/4" - 5/16"	1/2-20	1/2"	1'-0"	10"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.04
12ETTJT-X	1/4" - 5/16"	1/2-20	1/2"	1'-0 5/16"	10 5/16"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.26
12ETTJT-XX	1/4" - 5/16"	1/2-20	1/2"	1'-0 1/2"	10 1/2"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.28
58ETTJT	5/16" - 3/8"	5/8-18	5/8"	1'-3 3/8"	1'-0 7/8"	8 1/4"	1 1/2"	5/8"	1 1/2"	2.35
58ETTJT-X	5/16" - 3/8"	5/8-18	5/8"	1'-3 5/8"	1'-1 1/8"	8 1/4"	1 3/4"	5/8"	1 1/2"	2.77
58ETTJT-XX	5/16" - 3/8"	5/8-18	5/8"	1'-4 7/16"	1'-1 15/16"	8 1/4"	2 9/16"	5/8"	1 1/2"	2.90
34ETTJT	7/16" - 1/2"	3/4-16	3/4"	1'-6 1/16"	1'-3 1/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	3.86
34ETTJT-X	7/16" - 1/2"	3/4-16	3/4"	1'-6 3/8"	1'-3 3/8"	9 3/4"	2 3/16"	3/4"	1 7/8"	4.74
34ETTJT-XX	7/16" - 1/2"	3/4-16	3/4"	1'-6 7/8"	1'-3 7/8"	9 3/4"	2 11/16"	3/4"	1 7/8"	4.86
34ETTJT-XXX	7/16" - 1/2"	3/4-16	3/4"	1'-7 3/16"	1'-4 3/16"	9 3/4"	3"	3/4"	1 7/8"	4.95

EYE TOGGLE JAW TO EYE TOGGLE JAW - CLOSED BODY - EXT. JAW

316 Stainless Steel

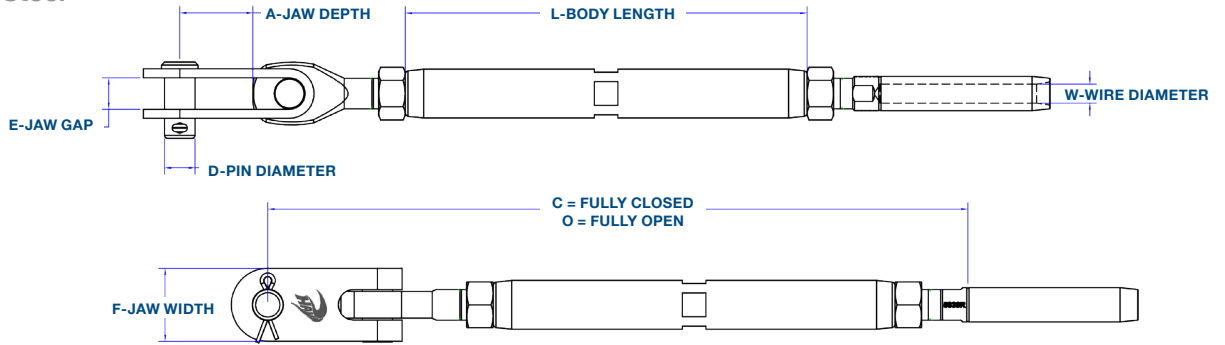


SMART PART # KEY toggle pin size | Eye Tubular Turnbuckle Jaw | - extension length suffix

Part #	Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38ETTJ	3/16" - 1/4"	3/8-24	3/8"	1'-2 1/4"	10 1/2"	5 1/2"	3/4"	3/8"	7/8"	0.81
38ETTJ-X	3/16" - 1/4"	3/8-24	3/8"	1'-3"	11 1/4"	5 1/2"	1 1/8"	3/8"	7/8"	0.84
12ETTJ	1/4" - 5/16"	1/2-20	1/2"	1'-5 5/8"	1'-1 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.72
12ETTJ-X	1/4" - 5/16"	1/2-20	1/2"	1'-6 1/4"	1'-2 1/4"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.94
12ETTJ-XX	1/4" - 5/16"	1/2-20	1/2"	1'-6 5/8"	1'-2 5/8"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.96
58ETTJ	5/16" - 3/8"	5/8-18	5/8"	1'-10 3/8"	1'-5 3/8"	8 1/4"	1 1/2"	5/8"	1 1/2"	3.80
58ETTJ-X	5/16" - 3/8"	5/8-18	5/8"	1'-10 7/8"	1'-5 7/8"	8 1/4"	1 3/4"	5/8"	1 1/2"	4.22
58ETTJ-XX	5/16" - 3/8"	5/8-18	5/8"	2'-0 1/2"	1'-7 1/2"	8 1/4"	2 9/16"	5/8"	1 1/2"	4.35
34ETTJ	7/16" - 1/2"	3/4-16	3/4"	2'-2 3/8"	1'-8 3/8"	9 3/4"	1 7/8"	3/4"	1 7/8"	6.20
34ETTJ-X	7/16" - 1/2"	3/4-16	3/4"	2'-3"	1'-9"	9 3/4"	2 3/16"	3/4"	1 7/8"	7.08
34ETTJ-XX	7/16" - 1/2"	3/4-16	3/4"	2'-4"	1'-10"	9 3/4"	2 11/16"	3/4"	1 7/8"	7.20
34ETTJ-XXX	7/16" - 1/2"	3/4-16	3/4"	2'-4 5/8"	1'-9 5/8"	9 3/4"	3"	3/4"	1 7/8"	7.29

EYE TOGGLE JAW TO SWAGE - CLOSED BODY - EXT. JAW

316 Stainless Steel



SMART PART # KEY eye toggle pin size | Eye Tubular Turnbuckle Swage | wire size | - extension length suffix

Imperial Wire Sizes

Part #	W-Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
38ETTS316-X	3/16"	3/8-24	3/8"	1'-0 7/8"	9 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.61
38ETTS732-X	7/32"	3/8-24	3/8"	1'-0 7/8"	9 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.63
38ETTS14-X	1/4"	3/8-24	3/8"	1'-1"	9 1/4"	5 1/2"	1 1/8"	3/8"	7/8"	0.68
12ETTS14	1/4"	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.36
12ETTS14-X	1/4"	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.58
12ETTS14-XX	1/4"	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.60
12ETTS932	9/32"	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.41
12ETTS932-X	9/32"	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.63
12ETTS932-XX	9/32"	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.65
12ETTS516	5/16"	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.47
12ETTS516-X	5/16"	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.69
12ETTS516-XX	5/16"	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.71
58ETTS516	5/16"	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	2.99
58ETTS516-X	5/16"	5/8-18	5/8"	1'-7 1/2"	1'-2 1/2"	8 1/4"	1 3/4"	5/8"	1 1/2"	3.41
58ETTS516-XX	5/16"	5/8-18	5/8"	1'-8 5/16"	1'-3 5/16"	8 1/4"	2 9/16"	5/8"	1 1/2"	3.54
58ETTS38	3/8"	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	3.08
58ETTS38-X	3/8"	5/8-18	5/8"	1'-7 1/2"	1'-2 1/2"	8 1/4"	1 3/4"	5/8"	1 1/2"	3.50
58ETTS38-XX	3/8"	5/8-18	5/8"	1'-8 5/16"	1'-3 5/16"	8 1/4"	2 9/16"	5/8"	1 1/2"	3.63
34ETTS716	7/16"	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	5.00
34ETTS716-X	7/16"	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	9 3/4"	2 3/16"	3/4"	1 7/8"	5.88
34ETTS716-XX	7/16"	3/4-16	3/4"	1'-11 5/8"	1'-5 5/8"	9 3/4"	2 11/16"	3/4"	1 7/8"	6.00
34ETTS12	1/2"	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	5.14
34ETTS12-X	1/2"	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	9 3/4"	2 3/16"	3/4"	1 7/8"	6.02
34ETTS12-XX	1/2"	3/4-16	3/4"	1'-11 5/8"	1'-5 5/8"	9 3/4"	2 11/16"	3/4"	1 7/8"	6.14
34ETTS12-XXX	1/2"	3/4-16	3/4"	1'-11 15/16"	1'-5 15/16"	9 3/4"	3"	3/4"	1 7/8"	6.23

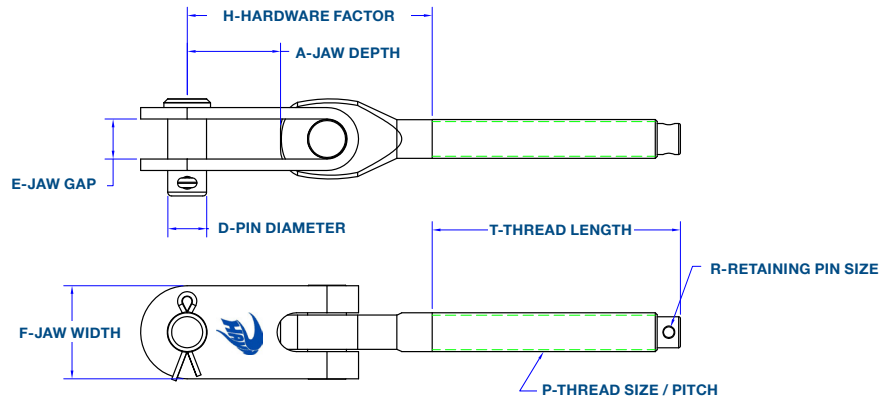
Metric Wire Sizes

38TTSM05-X	5mm	3/8-24	3/8"	1'-0 7/8"	9 1/8"	5 1/2"	1 1/8"	3/8"	7/8"	0.61
38TTSM06-X	6mm	3/8-24	3/8"	1'-1"	9 1/4"	5 1/2"	1 1/8"	3/8"	7/8"	0.68
12ETTSM06	6mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.36
12ETTSM06-X	6mm	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.58
12ETTSM06-XX	6mm	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.60
12ETTSM07	7mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.41
12ETTSM07-X	7mm	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.63
12ETTSM07-XX	7mm	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.65
12ETTSM08	8mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.47
12ETTSM08-X	8mm	1/2-20	1/2"	1'-3 5/8"	11 5/8"	6 1/2"	1 7/16"	1/2"	1 5/32"	1.69
12ETTSM08-XX	8mm	1/2-20	1/2"	1'-3 13/16"	11 13/16"	6 1/2"	1 5/8"	1/2"	1 5/32"	1.71
58ETTSM08	8mm	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	2.99
58ETTSM08-X	8mm	5/8-18	5/8"	1'-7 1/2"	1'-2 1/2"	8 1/4"	1 3/4"	5/8"	1 1/2"	3.41
58ETTSM08-XX	8mm	5/8-18	5/8"	1'-8 5/16"	1'-3 5/16"	8 1/4"	2 9/16"	5/8"	1 1/2"	3.54
58ETTSM10	10mm	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	3.08
58ETTSM10-X	10mm	5/8-18	5/8"	1'-7 1/2"	1'-2 1/2"	8 1/4"	1 3/4"	5/8"	1 1/2"	3.50
58ETTSM10-XX	10mm	5/8-18	5/8"	1'-8 5/16"	1'-3 5/16"	8 1/4"	2 9/16"	5/8"	1 1/2"	3.63
34ETTSM11	11mm	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	5.00
34ETTSM11-X	11mm	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	9 3/4"	2 3/16"	3/4"	1 7/8"	5.88
34ETTSM11-XX	11mm	3/4-16	3/4"	1'-11 5/8"	1'-5 5/8"	9 3/4"	2 11/16"	3/4"	1 7/8"	6.00
34ETTSM12	12mm	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	5.14
34ETTSM12-X	12mm	3/4-16	3/4"	1'-11 1/8"	1'-5 1/8"	9 3/4"	2 3/16"	3/4"	1 7/8"	6.02
34ETTSM12-XX	12mm	3/4-16	3/4"	1'-11 5/8"	1'-5 5/8"	9 3/4"	2 11/16"	3/4"	1 7/8"	6.14
34ETTSM12-XXX	12mm	3/4-16	3/4"	1'-5 15/16"	1'-5 15/16"	9 3/4"	3"	3/4"	1 7/8"	6.23

THREADED EYE TOGGLE JAWS - EXT. JAW

with retaining pin hole / **Open Body Style**

316 Stainless Steel



Left Hand

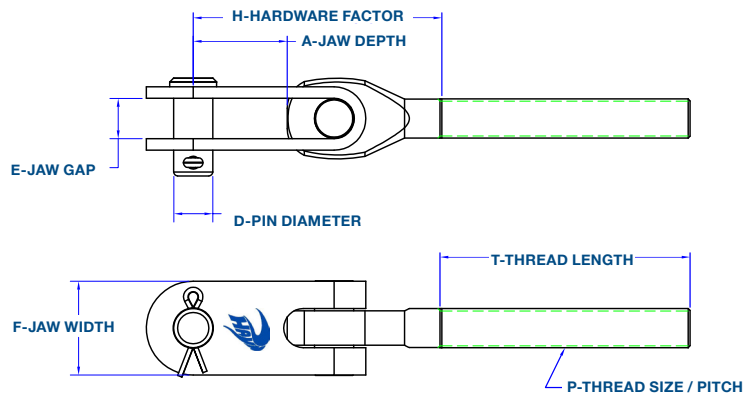
Right Hand

Part #	Part #	P-Thread	D-Pin Ø	T-Thread Length	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	H-Hardware Factor	R-Retaining Pin	Weight lbs.
38ETJLH	38ETJRH	3/8-24	3/8"	2 3/4"	3/4"	3/8"	7/8"	2 1/8"	3/32"	0.28
38ETJLH-X	38ETJRH-X	3/8-24	3/8"	2 3/4"	1 1/8"	3/8"	7/8"	2 1/2"	3/32"	0.31
12ETJLH	12ETJRH	1/2-20	1/2"	3 1/4"	1 1/8"	1/2"	1 5/32"	3"	1/8"	0.65
12ETJLH-X	12ETJRH-X	1/2-20	1/2"	3 1/4"	1 7/16"	1/2"	1 5/32"	3 5/16"	1/8"	0.87
12ETJLH-XX	12ETJRH-XX	1/2-20	1/2"	3 1/4"	1 5/8"	1/2"	1 5/32"	3 1/2"	1/8"	0.89
58ETJLH	58ETJRH	5/8-18	5/8"	4"	1 1/2"	5/8"	1 1/2"	3 15/16"	5/32"	1.27
58ETJLH-X	58ETJRH-X	5/8-18	5/8"	4"	1 3/4"	5/8"	1 1/2"	4 3/16"	5/32"	1.69
58ETJLH-XX	58ETJRH-XX	5/8-18	5/8"	4"	2 9/16"	5/8"	1 1/2"	5"	5/32"	1.82
34ETJLH	34ETJRH	3/4-16	3/4"	4 7/8"	1 7/8"	3/4"	1 7/8"	4 11/16"	3/16"	2.31
34ETJLH-X	34ETJRH-X	3/4-16	3/4"	4 7/8"	2 3/16"	3/4"	1 7/8"	5"	3/16"	3.19
34ETJLH-XX	34ETJRH-XX	3/4-16	3/4"	4 7/8"	2 11/16"	3/4"	1 7/8"	5 1/2"	3/16"	3.31
34ETJLH-XXX	34ETJRH-XXX	3/4-16	3/4"	4 7/8"	3"	3/4"	1 7/8"	5 13/16"	3/16"	3.40

THREADED EYE TOGGLE JAWS - EXT. JAW

w/o retaining pin / **Closed Body Style**

316 Stainless Steel



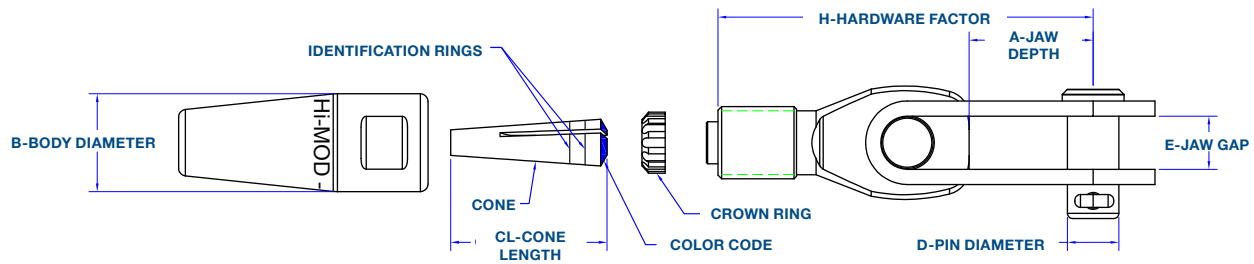
Left Hand

Right Hand

Part #	Part #	P-Thread	D-Pin Ø	T-Thread Length	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	H-Hardware Factor	Weight lbs.
38ETJLH-P	38ETJRH-P	3/8-24	3/8"	2 3/4"	3/4"	3/8"	7/8"	2 1/8"	0.28
38ETJLH-P-X	38ETJRH-P-X	3/8-24	3/8"	2 3/4"	1 1/8"	3/8"	7/8"	2 1/2"	0.31
12ETJLH-P	12ETJRH-P	1/2-20	1/2"	3 1/4"	1 1/8"	1/2"	1 5/32"	3"	0.65
12ETJLH-P-X	12ETJRH-P-X	1/2-20	1/2"	3 1/4"	1 7/16"	1/2"	1 5/32"	3 5/16"	0.87
12ETJLH-P-XX	12ETJRH-P-XX	1/2-20	1/2"	3 1/4"	1 5/8"	1/2"	1 5/32"	3 1/2"	0.89
58ETJLH-P	58ETJRH-P	5/8-18	5/8"	4"	1 1/2"	5/8"	1 1/2"	3 15/16"	1.27
58ETJLH-P-X	58ETJRH-P-X	5/8-18	5/8"	4"	1 3/4"	5/8"	1 1/2"	4 3/16"	1.69
58ETJLH-P-XX	58ETJRH-P-XX	5/8-18	5/8"	4"	2 9/16"	5/8"	1 1/2"	5"	1.82
34ETJLH-P	34ETJRH-P	3/4-16	3/4"	4 7/8"	1 7/8"	3/4"	1 7/8"	4 11/16"	2.31
34ETJLH-P-X	34ETJRH-P-X	3/4-16	3/4"	4 7/8"	2 3/16"	3/4"	1 7/8"	5"	3.19
34ETJLH-P-XX	34ETJRH-P-XX	3/4-16	3/4"	4 7/8"	2 11/16"	3/4"	1 7/8"	5 1/2"	3.31
34ETJLH-P-XXX	34ETJRH-P-XXX	3/4-16	3/4"	4 7/8"	3"	3/4"	1 7/8"	5 13/16"	3.40

Hi-MOD COMPRESSION TOGGLES - EXT. JAW

316 Stainless Steel



Strand Configuration Part #		Imperial Wire Sizes					
1x19	7x7 or 7x19	Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	H-Hardware Factor	Weight lbs.
38CTT316	38CTT316-7	3/16"	3/8"	3/4"	3/8"	2 9/16"	0.30
38CTT316-X	38CTT316-7-X	3/16"	3/8"	1 1/8"	3/8"	2 15/16"	0.33
38CTT732	38CTT732-7	7/32"	3/8"	3/4"	3/8"	2 9/16"	0.30
38CTT732-X	38CTT732-7-X	7/32"	3/8"	1 1/8"	3/8"	2 15/16"	0.33
38CTT14	38CTT14-7	1/4"	3/8"	3/4"	3/8"	2 5/8"	0.36
38CTT14-X	38CTT14-7-X	1/4"	3/8"	1 1/8"	3/8"	3"	0.39
12CTT14	12CTT14-7	1/4"	1/2"	1 1/8"	1/2"	3 5/16"	0.63
12CTT14-X	12CTT14-7-X	1/4"	1/2"	1 7/16"	1/2"	3 5/8"	0.85
12CTT14-XX	12CTT14-7-XX	1/4"	1/2"	1 5/8"	1/2"	3 13/16"	0.87
12CTT932	12CTT932-7	9/32"	1/2"	1 1/8"	1/2"	3 7/16"	0.72
12CTT932-X	12CTT932-7-X	9/32"	1/2"	1 7/16"	1/2"	3 3/4"	0.94
12CTT932-XX	12CTT932-7-XX	9/32"	1/2"	1 5/8"	1/2"	3 15/16"	0.96
12CTT516	12CTT516-7	5/16"	1/2"	1 1/8"	1/2"	3 5/8"	0.88
12CTT516-X	12CTT516-7-X	5/16"	1/2"	1 7/16"	1/2"	3 15/16"	1.10
12CTT516-XX	12CTT516-7-XX	5/16"	1/2"	1 5/8"	1/2"	4 1/8"	1.12
58CTT516	58CTT516-7	5/16"	5/8"	1 1/4"	5/8"	4 1/2"	1.41
58CTT516-X	58CTT516-7-X	5/16"	5/8"	1 1/2"	5/8"	4 3/4"	1.83
58CTT516-XX	58CTT516-7-XX	5/16"	5/8"	2 5/16"	5/8"	5 9/16"	1.96
58CTT38	58CTT38-7	3/8"	5/8"	1 1/4"	5/8"	4 9/16"	1.68
58CTT38-X	58CTT38-7-X	3/8"	5/8"	1 1/2"	5/8"	4 13/16"	2.10
58CTT38-XX	58CTT38-7-XX	3/8"	5/8"	2 5/16"	5/8"	5 5/8"	2.23
34CTT716	34CTT716-7	7/16"	3/4"	1 7/8"	3/4"	5 13/16"	2.54
34CTT716-X	34CTT716-7-X	7/16"	3/4"	2 3/16"	3/4"	6 1/8"	3.42
34CTT716-XX	34CTT716-7-XX	7/16"	3/4"	2 11/16"	3/4"	6 5/8"	3.54
34CTT716-XXX	34CTT716-7-XXX	7/16"	3/4"	3"	3/4"	6 15/16"	3.63
34CTT12	34CTT12-7	1/2"	3/4"	1 7/8"	3/4"	5 13/16"	3.01
34CTT12-X	34CTT12-7-X	1/2"	3/4"	2 3/16"	3/4"	6 1/8"	3.89
34CTT12-XX	34CTT12-7-XX	1/2"	3/4"	2 11/16"	3/4"	6 5/8"	4.01
34CTT12-XXX	34CTT12-7-XXX	1/2"	3/4"	3"	3/4"	6 15/16"	4.10

NOTE: Table for metric wires including "Compact Strand" to follow on the next page.
Standard jaw depths listed for jaw depth comparison.

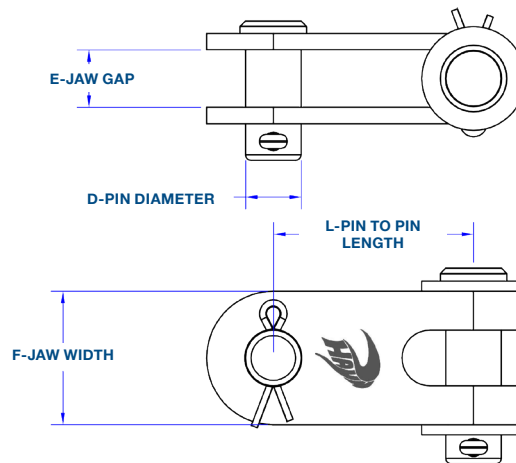


NOTE: Refer to previous page for dimensional reference drawing.

Strand Configuration Part #			Metric Wire Sizes					
1x19	7x7 or 7x19	Compact Strand Dyform	Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	H-Hardware Factor	Weight lbs.
38CTTM05	38CTTM05-7	38CTTM05-D	5mm	3/8"	3/4"	3/8"	2 9/16"	0.30
38CTTM05-X	38CTTM05-7-X	38CTTM05-D-X	5mm	3/8"	1 1/8"	3/8"	2 15/16"	0.33
38CTTM06	38CTTM06-7	38CTTM06-D	6mm	3/8"	3/4"	3/8"	2 9/16"	0.36
38CTTM06-X	38CTTM06-7-X	38CTTM06-D-X	6mm	3/8"	1 1/8"	3/8"	2 15/16"	0.39
12CTTM06	12CTTM06-7	12CTTM06-D	6mm	1/2"	1 1/8"	1/2"	3 5/16"	0.63
12CTTM06-X	12CTTM06-7-X	12CTTM06-D-X	6mm	1/2"	1 7/16"	1/2"	3 5/8"	0.70
12CTTM06-XX	12CTTM06-7-XX	12CTTM06-D-XX	6mm	1/2"	1 5/8"	1/2"	3 13/16"	0.72
12CTTM07	12CTTM07-7	12CTTM07-D	7mm	1/2"	1 1/8"	1/2"	3 7/16"	0.72
12CTTM07-X	12CTTM07-7-X	12CTTM07-D-X	7mm	1/2"	1 7/16"	1/2"	3 3/4"	0.79
12CTTM07-XX	12CTTM07-7-XX	12CTTM07-D-XX	7mm	1/2"	1 5/8"	1/2"	3 15/16"	0.81
12CTTM08	12CTTM08-7	12CTTM08-D	8mm	1/2"	1 1/8"	1/2"	3 5/8"	0.88
12CTTM08-X	12CTTM08-7-X	12CTTM08-D-X	8mm	1/2"	1 7/16"	1/2"	3 15/16"	1.10
12CTTM08-XX	12CTTM08-7-XX	12CTTM08-D-XX	8mm	1/2"	1 5/8"	1/2"	4 1/8"	1.12
58CTTM08	58CTTM08-7	58CTTM08-D	8mm	5/8"	1 1/4"	5/8"	4 1/2"	1.41
58CTTM08-X	58CTTM08-7-X	58CTTM08-D-X	8mm	5/8"	1 1/2"	5/8"	4 3/4"	1.83
58CTTM08-XX	58CTTM08-7-XX	58CTTM08-D-XX	8mm	5/8"	2 5/16"	5/8"	5 9/16"	1.96
58CTTM10	58CTTM10-7	58CTTM10-D	10mm	5/8"	1 1/4"	5/8"	4 9/16"	1.68
58CTTM10-X	58CTTM10-7-X	58CTTM10-D-X	10mm	5/8"	1 1/2"	5/8"	4 13/16"	2.10
58CTTM10-XX	58CTTM10-7-XX	58CTTM10-D-XX	10mm	5/8"	2 5/16"	5/8"	5 5/8"	2.23
34CTTM12	34CTTM12-7	34CTTM12-CS	12mm	3/4"	1 7/8"	3/4"	5 13/16"	3.01
34CTTM12-X	34CTTM12-7-X	34CTTM12-CS-X	12mm	3/4"	2 3/16"	3/4"	6 1/8"	3.91
34CTTM12-XX	34CTTM12-7-XX	34CTTM12-CS-XX	12mm	3/4"	2 11/16"	3/4"	6 5/8"	4.12
34CTTM12-XXX	34CTTM12-7-XXX	34CTTM12-CS-XXX	12mm	3/4"	3"	3/4"	6 15/16"	4.32

DOUBLE JAW TOGGLE - EXT. JAW

316 Stainless Steel



Hayn Part #	D-Pin Ø	L-Pin to Pin	E-Jaw Gap	F-Jaw Width	Weight lbs.
14DJT	1/4"	7/8"	1/4"	21/32"	0.07
516DJT	5/16"	31/32"	5/16"	3/4"	0.11
38DJT	3/8"	1 1/4"	3/8"	7/8"	0.17
38DJT-X	3/8"	1 5/8"	3/8"	7/8"	0.20
716DJT	7/16"	1 3/4"	7/16"	1 1/16"	0.24
12DJT	1/2"	1 11/16"	1/2"	1 5/32"	0.41
12DJT-X	1/2"	2"	1/2"	1 5/32"	0.47
12DJT-XX	1/2"	2 3/16"	1/2"	1 5/32"	0.65
58DJT	5/8"	2 1/4"	5/8"	1 1/2"	0.79
58DJT-X	5/8"	2 1/2"	5/8"	1 1/2"	0.83
58DJT-XX	5/8"	3 5/16"	5/8"	1 1/2"	1.34
34DJT	3/4"	2 11/16"	3/4"	1 7/8"	1.44
34DJT-X	3/4"	3"	3/4"	1 7/8"	1.49
34DJT-XX	3/4"	3 1/2"	3/4"	1 7/8"	2.53
34DJT-XXX	3/4"	3 13/16"	3/4"	1 7/8"	1.53
78DJT	7/8"	4"	7/8"	2 3/8"	2.77
1DJT	1"	3 7/8"	1"	2 1/2"	3.47
118DJT	1 1/8"	4"	1 1/8"	2 3/4"	5.45
114DJT	1 1/4"	5 3/8"	1 1/4"	3 1/4"	6.49

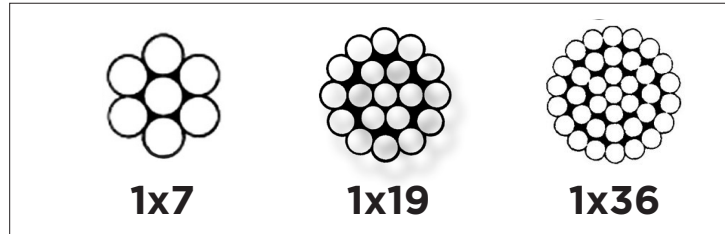
NOTE: Larger sizes and "Pin Diameter" to "Jaw Gap" combinations available upon request.

Standard jaw depths listed for jaw depth comparison.




COMPACT STRAND WIRE ROPE & SWAGE TERMINALS INDEX

- 17** Compact Strand Wire Rope
- 18** Swage Techniques - Compact Strand Wire Rope
- 19** Swage Techniques - Compact Strand Wire Rope / Consumables
- 20** Swage Marine Eyes - Compact Strand / Swage Stemballs
- 21** Swage Rigging Toggles
- 22** Swage Rigging Studs / Eye Toggle Jaw To Swage - Closed Body
- 23** Eye Toggle Jaw To Swage - Open Body

Compact Strand Wire Rope



Compact Strand Stainless Steel Wire

Per Foot	316 SS	  	250' Spool	500' Spool	
Part #	Wire Diameter	Strand	Part #	Part #	Min. Break lbs
SCM0317CS	3mm	1 x 7	SCM0317CS25	SCM0317CS50	2,204
SCM0417CS	4mm	1 x 7	SCM0417CS25	SCM0417CS50	3,924
SCM0519CS	5mm	1 x 19	SCM0519CS25	SCM0519CS50	5,379
SCM0619CS	6mm	1 x 19	SCM0619CS25	SCM0619CS50	7,826
SCM0719CS	7mm	1 x 19	SCM0719CS25	SCM0719CS50	10,825
SCM0819CS	8mm	1 x 19	SCM0819CS25	SCM0819CS50	13,558
SCM1019CS	10mm	1 x 19	SCM1019CS25	SCM1019CS50	21,539
SCM1219CS	12mm	1 x 19	SCM1219CS25	SCM1219CS50	31,747
SCM1419CS	14mm	1 x 19	-	-	43,415
SCM1436CS	14mm	1 x 36	-	-	42,215
SCM1636CS	16mm	1 x 36	-	-	56,395
SCM1936CS	19mm	1 x 36	-	-	79,525

Manufacturer certifications available upon request.
Min. Break lbs - Minimum Breaking Load in Pounds

All Hayn **rigging hardware** is engineered to exceed the minimum breaking strength of compact strand (as listed above) ANSI 316 stainless steel wire rope in it's corresponding wire size. However, a maximum of 40% of the amounts listed in the above tables should not be exceeded. Consult your engineer for the applicable safe working load for your application.



Swaging Techniques - Compact Strand Wire Rope

Preface:

The intention of these instructions is to provide guidance on swaging techniques for compact strand wire rope. The steps outlined in this procedure should only be executed by an experienced and qualified rigging professional.

All raw materials, tools, measurement equipment, and gage calibration services described in this procedure can be obtained from Hayn Enterprises, LLC.

Steps / Operations:

- 1.0 Ensure that the swage terminal selected is suited for use with compact strand wire rope. Hayn part numbers will have a suffix of "-CS".
- 2.0 De-burr / slightly chamfer wire rope cut end to ensure smooth insertion into swage terminal.
- 3.0 Clean / scuff wire rope with Scotch-Brite™ "General Purpose Hand Pad 7447" or equivalent for the entire depth of swage plus 2 wire diameters or 14 times wire diameter. Example: 12mm Compact Strand x 14 = 168mm length to clean
- 4.0 Ensure both the wire rope and swage terminal are free of contaminants and oils by wiping down with Acetone and a lint free wipe such as a Hayn Wipe or equivalent.
- 5.0 Insert wire rope to full depth of the swage terminal and mark exit point on the wire rope with permanent marker. Extract the wire rope and place next to swage fitting and mark hole depth with permanent marker.
- 6.0 Spray wire rope with **LOCTITE™** Kleen N Prime 7471 and wait at least 1 minute prior to moving to the next step.
- 7.0 Lightly coat wire rope with **LOCTITE™** Sleeve Retainer 640 for a length of 12 times wire diameter.

NOTE: Cure time is 24 hours @ 22° Celsius (72° Degrees Fahrenheit). **LOCTITE™** curing performance is temperature sensitive and dramatically slows with temperatures below 22° Celsius (72° Degrees Fahrenheit).

- 8.0 Apply 140 Grit Synthetic Diamond Powder to the **LOCTITE™** coated surface.
- 9.0 Insert / rotate (2 full turns) the swage fitting onto the wire rope ensuring 100% entry by observing the permanent marker line made during step 5.0.
- 10.0 Perform swage operation using a WireTeknik or Top Reff roll swage machine.
 - 10.1 Select appropriate die size and lightly lubricate.
 - 10.2 Select and install appropriate pulling attachment (WireTeknik Only).
 - 10.3 Engage swage machine dies $\frac{1}{2}$ → 1 wire diameter short of swage depth indicated with permanent marker.
 - 10.4 Ensure the wire rope has straight alignment / entry into swage terminal during the swage operation.
 - 10.5 Using the permanent marker line on the wire rope, ensure wire is 100% inserted into swage fitting prior to commencing swage operation.
 - 10.6 The permanent marker line should have disappeared, as the swage terminal will grow in length during the swage operation.

Continued on next page...

After Swage Inspections / Actions:

- 1.0 Inspect to determine if any permanent marker is visible on the wire rope.
NOTE: If marker remains visible, the wire rope was not completely engaged during the swage operation and full pull out strength has not been achieved. The fitting must not be used.
- 2.0 Wipe / clean wire rope and swage terminal with Acetone to ensure all remaining oil, debris, Sleeve Retainer, and Diamond Power are removed.
- 3.0 All measurement inspections should be performed using a calibrated measuring instrument. Hayn recommends a digital caliper or a digital micrometer.
- 4.0 Measure after swage dimension of the swage terminal and compare value to "Swage Dimension Table" located on page 5 of this Supplemental Hardware Catalog.

NOTE: Due to variations in wire rope, material hardness, and fitting manufacture tolerance it may be necessary to repeat steps 10.0. Document after swage measured value with job for permanent record of swage validity.

Compact Strand Swage Consumables

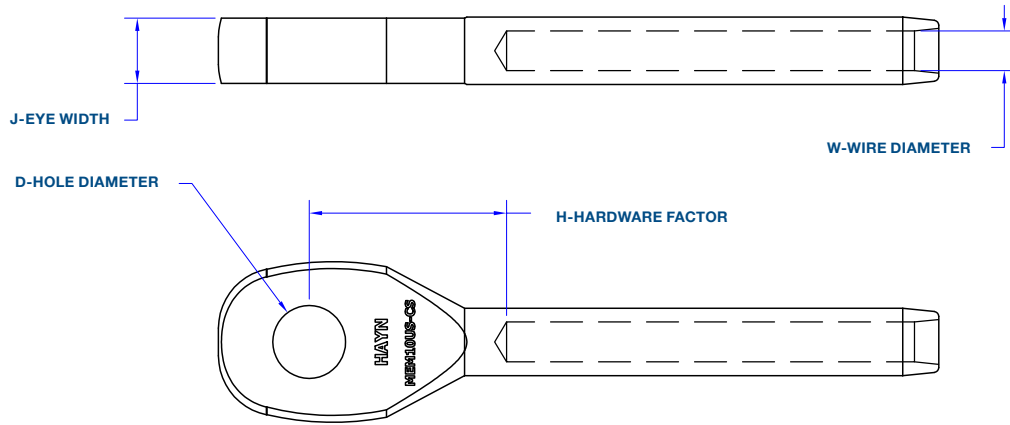
Part #	Description
LOCTITE-640	Loctite Sleeve Retainer - 640 50ml Bottle
LOCTITE-7471	Loctite Kleen & Prime - 4.5oz Aerosol Spray
DIAMOND-POWDER	Diamond Powder for Compact Strand Fittings - 20 Gram Packet
SCOTCH-PAD	Scotch-Brite Pad - General Purpose 7447 - Case of 20 Pads
SCOTCH-PAD-1	Scotch-Brite Pad - General Purpose 7447 - Each (1)
WIPES-CASE	Hayn Finishing Lint Free Wipes - Case of 300
WIPES-EACH	Hayn Finishing Wipes - Each (1)



SWAGE MARINE EYES

For use with Compact Strand / Dyform

316 Stainless Steel

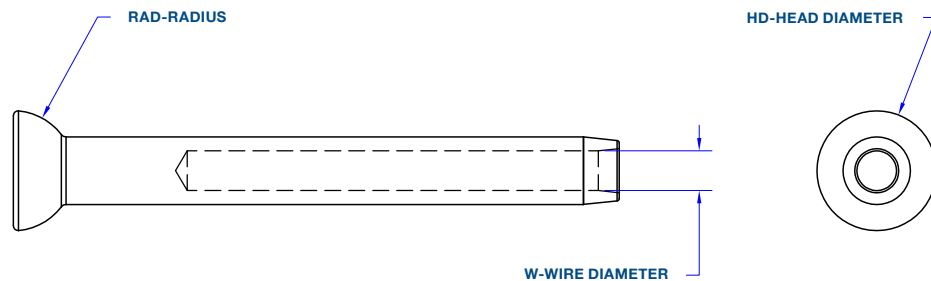


Part #	W-Wire Ø	D-Hole Ø	H-Hardware Factor	J-Eye Width	Weight lbs.
MEM03-CS	3mm	1/4"	11/16"	7/32"	0.03
MEM04-CS	4mm	5/16"	13/16"	1/4"	0.04
MEM05-CS	5mm	3/8"	15/16"	5/16"	0.10
MEM06-CS	6mm	1/2"	1 1/8"	3/8"	0.24
MEM07-CS	7mm	1/2"	1 3/32"	15/32"	0.32
MEM08A-CS	8mm	1/2"	1 3/16"	1/2"	0.43
MEM08-CS	8mm	5/8"	1 5/16"	1/2"	0.49
MEM10-CS	10mm	5/8"	1 9/16"	9/16"	0.65
MEM10US-CS	10mm	3/4"	2 1/16"	11/16"	0.89
MEM12-CS	12mm	3/4"	2 7/32"	11/16"	1.26
MEM12US-CS	12mm	7/8"	2 1/16"	7/8"	1.40
MEM14-CS	14mm	7/8"	2 1/4"	13/16"	1.84
MEM14US-CS	14mm	1"	1 1/2"	15/16"	2.06
MEM16-CS	16mm	1"	2 5/16"	15/16"	2.47
MEM16US-CS	16mm	1 1/8"	2 11/16"	1 1/16"	2.91
MEM19-CS	19mm	1 1/8"	2 1/2"	1 1/32"	4.14
MEM19US-CS	19mm	1 1/4"	3 7/16"	1 3/16"	5.47

SWAGE STEM BALL TERMINALS

For use with Compact Strand / Dyform

316 Stainless Steel

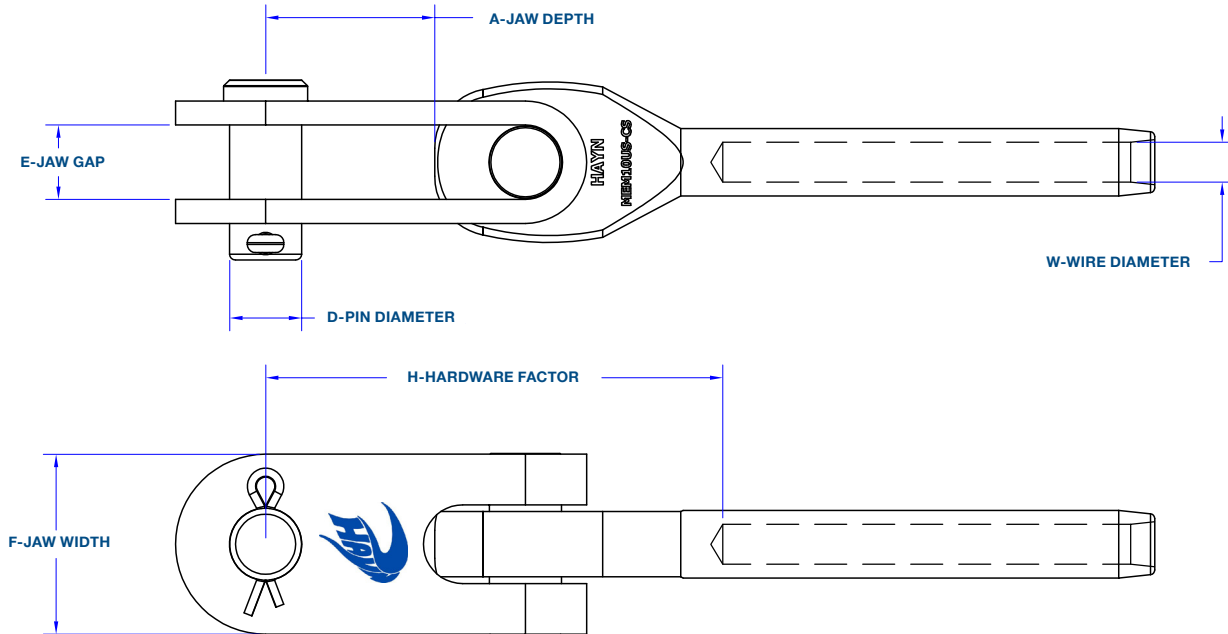


Part #	W-Wire Ø	Cup Washer #	HD-Head Ø	RAD-Radius	Weight lbs.
SBM07-CS	7mm	SBC932	21.6mm	11.0mm	0.30
SBM08-CS	8mm	-	27.2mm	13.8mm	0.42
SBM08X25-CS	8mm	SBC516	25.0mm	12.4mm	0.40
SBM10-CS	10mm	-	31.5mm	15.8mm	0.60
SBM12-CS	12mm	-	35mm	17.5mm	1.00
SBM14-CS	14mm	-	43mm	21.8mm	1.61

SWAGE RIGGING TOGGLES

For use with Compact Strand / Dyform

316 Stainless Steel



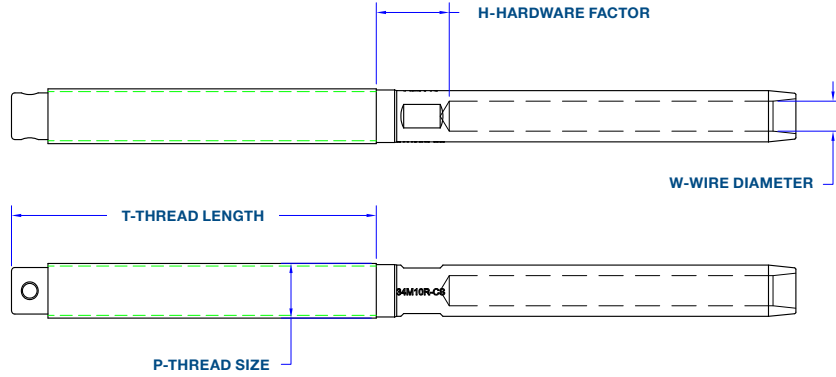
Part #	W-Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	H-Hardware Factor	Weight lbs.
14RTM03-CS	3mm	1/4"	9/16"	1/4"	5/8"	1 5/8"	0.11
516RTM04-CS	4mm	5/16"	5/8"	5/16"	3/4"	1 3/4"	0.15
38RTM05-CS	5mm	3/8"	3/4"	3/8"	7/8"	2 5/32"	0.27
12RTM06-CS	6mm	1/2"	1 1/16"	1/2"	1 5/32"	2 13/16"	0.59
12RTM07-CS	7mm	1/2"	1 1/16"	1/2"	1 5/32"	2 3/4"	0.62
12RTM08-CS	8mm	1/2"	1 1/16"	1/2"	1 5/32"	2 7/8"	0.75
58RTM08-CS	8mm	5/8"	1 7/16"	5/8"	1 1/2"	3 9/16"	1.20
58RTM10-CS	10mm	5/8"	1 7/16"	5/8"	1 1/2"	3 13/16"	1.25
34RTM10-CS	10mm	3/4"	1 3/16"	3/4"	1 7/8"	4 3/4"	2.50
34RTM12-CS	12mm	3/4"	1 3/4"	3/4"	1 7/8"	4 15/16"	4.10
78RTM12-CS	12mm	7/8"	2 7/8"	7/8"	2 3/8"	6 1/32"	4.45
78RTM14-CS	14mm	7/8"	2 31/32"	7/8"	2 3/8"	6 7/32"	5.10
1RTM14-CS	14mm	1"	2 5/8"	1"	2 1/2"	6 1/8"	6.10
1RTM16-CS	16mm	1"	2 5/8"	1"	2 1/2"	6 1/8"	6.50
118RTM16-CS	16mm	1 1/8"	2 3/4"	1 1/8"	2 3/4"	6 11/16"	9.25
118RTM19-CS	19mm	1 1/8"	2 3/4"	1 1/8"	2 3/4"	7 1/4"	10.10
114RTM19-CS	19mm	1 1/4"	3 7/8"	1 1/4"	3 1/4"	8 7/8"	13.75



SWAGE RIGGING STUDS

For use with Compact Strand / Dyform

316 Stainless Steel

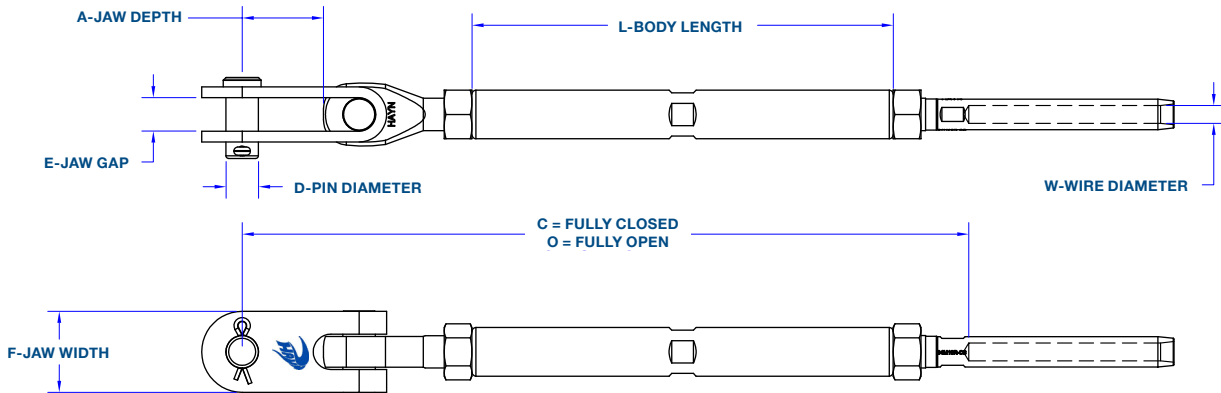


Part #	W-Wire Ø	P-Thread	H-Hardware Factor	T-Thread Length	Weight lbs.
14SEM03RH-CS	3mm	1/4-28	1/2"	2 1/4"	0.05
516SEM04RH-CS	4mm	5/16-24	11/16"	2 3/8"	0.08
38SEM05RH-CS	5mm	3/8-24	11/16"	2 7/8"	0.15
12SEM06RH-CS	6mm	1/2-20	3/4"	3 1/4"	0.31
12SEM07RH-CS	7mm	1/2-20	3/4"	3 1/4"	0.35
12SEM08RH-CS	8mm	1/2-20	3/4"	3 1/4"	0.45
58SEM08RH-CS	8mm	5/8-18	3/4"	4"	0.60
58SEM10RH-CS	10mm	5/8-18	13/16"	4"	0.73
34SEM10RH-CS	10mm	3/4-16	1"	5"	0.99
34SEM12RH-CS	12mm	3/4-16	1"	5"	1.29
78SEM12RH-CS	12mm	7/8-14	1 1/8"	6"	1.69
78SEM14RH-CS	14mm	7/8-14	1 7/32"	6"	2.07
1SEM14RH-CS	14mm	1-12	1 3/8"	6 3/8"	2.47
1SEM16RH-CS	16mm	1-12	1 5/16"	6 1/4"	2.90
118SEM16RH-CS	16mm	1 1/8-12	1 1/2"	7"	3.50
118SEM19RH-CS	19mm	1 1/8-12	1 7/32"	7"	4.70
114SEM19RH-CS	19mm	1 1/4-12	1 1/2"	7 7/8"	5.50

EYE TOGGLE JAW TO SWAGE - CLOSED BODY

For use with Compact Strand / Dyform

316 Stainless Steel

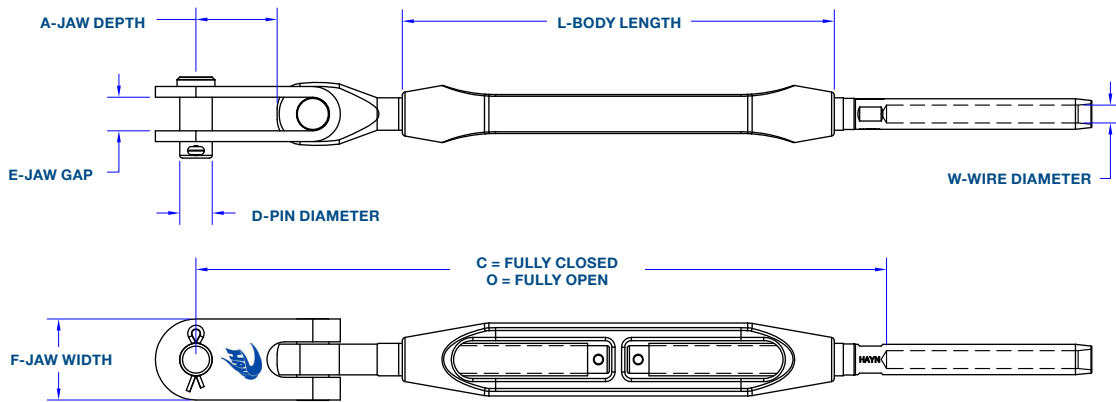


Part #	W-Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
14ETTSM03-CS	3mm	1/4-28	1/4"	9 11/16"	6 11/16"	4 1/4"	9/16"	1/4"	21/32"	0.24
516ETTSM04-CS	4mm	5/16-24	5/16"	11 1/8"	7 7/8"	5"	5/8"	5/16"	3/4"	0.41
38ETTSM05-CS	5mm	3/8-24	3/8"	1'- 1 1/8"	9 3/8"	5 1/2"	3/4"	3/8"	7/8"	0.62
12ETTSM06-CS	6mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.36
12ETTSM07-CS	7mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.41
12ETTSM08-CS	8mm	1/2-20	1/2"	1'-3 5/16"	11 5/16"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.48
58ETTSM08-CS	8mm	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	2.99
58ETTSM10-CS	10mm	5/8-18	5/8"	1'-7 1/4"	1'-2 1/4"	8 1/4"	1 1/2"	5/8"	1 1/2"	3.06
34ETTSM10-CS	10mm	3/4-16	3/4"	1'-10 5/16"	1'-5 1/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	4.50
34ETTSM12-CS	12mm	3/4-16	3/4"	1'-10 13/16"	1'-4 13/16"	9 3/4"	1 7/8"	3/4"	1 7/8"	5.18
78ETTSM12-CS	12mm	7/8-14	7/8"	2'-3"	1'-8"	11"	2 7/8"	7/8"	2 3/8"	8.60
78ETTSM14-CS	14mm	7/8-14	7/8"	2'-3 1/8"	1'-8 1/8"	11"	2 7/8"	7/8"	2 3/8"	11.82
1ETTSM14-CS	14mm	1-12	1"	2'-7 7/8"	1'-10 3/8"	1'-1"	2 5/8"	1"	2 1/2"	12.10
1ETTSM16-CS	16mm	1-12	1"	2'-5 11/16"	1'-10 3/16"	1'-1"	2 5/8"	1"	2 1/2"	12.26

EYE TOGGLE JAW TO SWAGE OPEN BODY

For use with Compact Strand / Dyform

316 Stainless Steel / Chromed Bronze Turnbuckle Body



SMART PART # KEY toggle pin size | Eye Toggle Forged Bronze | wire size

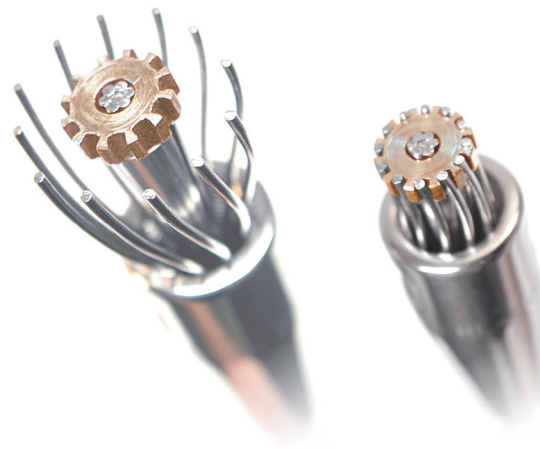
Part #	W-Wire Ø	Thread	D-Pin Ø	O-Open L	C-Closed L	L-Body	A-Jaw Depth	E-Jaw Gap	F-Jaw Width	Weight lbs.
14ETFBM03-CS	3mm	1/4-28	1/4"	9 11/16"	6 11/16"	4 1/2"	9/16"	1/4"	5/8"	0.25
516ETFBM04-CS	4mm	5/16-24	5/16"	10 3/4"	7 1/2"	5"	5/8"	5/16"	3/4"	0.43
38ETFBM05-CS	5mm	3/8-24	3/8"	1'-0 1/4"	8 3/4"	5 1/2"	3/4"	3/8"	7/8"	0.75
12ETFBM06-CS	6mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.54
12ETFBM07-CS	7mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.59
12ETFBM08-CS	8mm	1/2-20	1/2"	1'-2 5/8"	10 5/8"	6 1/2"	1 1/8"	1/2"	1 5/32"	1.65
58ETFBM08-CS	8mm	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.71
58ETFBM10-CS	10mm	5/8-18	5/8"	1'-6 1/16"	1'-1 1/16"	8"	1 1/2"	5/8"	1 1/2"	2.78
34ETFBM10-CS	10mm	3/4-16	3/4"	1'-10"	1'-4"	10"	1 7/8"	3/4"	1 7/8"	4.95
34ETFBM12-CS	12mm	3/4-16	3/4"	1'-10"	1'-4"	10"	1 7/8"	3/4"	1 7/8"	5.46
78ETFBM12-CS	12mm	7/8-14	7/8"	2'-3 3/8"	1'-7 7/8"	1'-0 7/16"	2 7/8"	7/8"	2 3/8"	9.25
78ETFBM14-CS	14mm	7/8-14	7/8"	2'-3 9/16"	1'-8 1/16"	1'-0 7/16"	2 7/8"	7/8"	2 3/8"	9.35
1ETFBM14-CS	14mm	1-12	1"	2'-6 5/16"	1'-9 5/16"	1'-2 3/16"	2 5/8"	1"	2 1/2"	12.65
1ETFBM16-CS	16mm	1-12	1"	2'-6 1/8"	1'-9 1/8"	1'-2 3/16"	2 5/8"	1"	2 1/2"	13.10
118ETFBM16-CS	16mm	1 1/8-12	1 1/8"	2'-9 5/8"	2'-0 1/8"	1'-4"	2 3/4"	1 1/8"	2 3/4"	19.00
118ETFBM19-CS	19mm	1 1/8-12	1 1/8"	2'-9 1/4"	1'-11 3/4"	1'-4"	2 3/4"	1 1/8"	2 3/4"	19.71
114ETFBM19-CS	19mm	1 1/4-12	1 1/4"	3'-2 1/4"	2'-3 3/4"	1'-5 7/8"	3 7/8"	1 1/4"	3 7/8"	25.35



COMPACT STRAND WIRE Hi-MOD COMPRESSION TERMINALS & FAILSAFE INSULATORS

- 25** Introduction / Consumables
- 26** Compression Fittings Cone & Crown Ring Configuration Chart
- 26** Compression Eyes
- 27** Compression Toggles / Compression Forks
- 28** Compression Studs / Splice Links
- 29** Installation Instructions
- 30** About Failsafe Backstay Insulators
- 31** Failsafe Backstay Insulator End Fitting Configurations





Produced by Petersen Stainless in the UK and distributed exclusively by Hayn Enterprises in the USA, the Hi-MOD mechanical terminal is the latest approach in swageless fittings. The terminal design includes a unique crown ring that arranges the wire strands for even spacing around the fitting. This allows each strand to experience the load equally. The design also eliminates the need to bend the wires around the cone, which ensures the cone is in the proper location, and keeps the strands from dropping into the cone slots. These advantages, combined with a longer cone with a more shallow angle, give you the most secure and efficient swageless terminal on the market today. Both the cone and crown ring are fully re-usable allowing for easy inspection and re-use without having to replace anything.

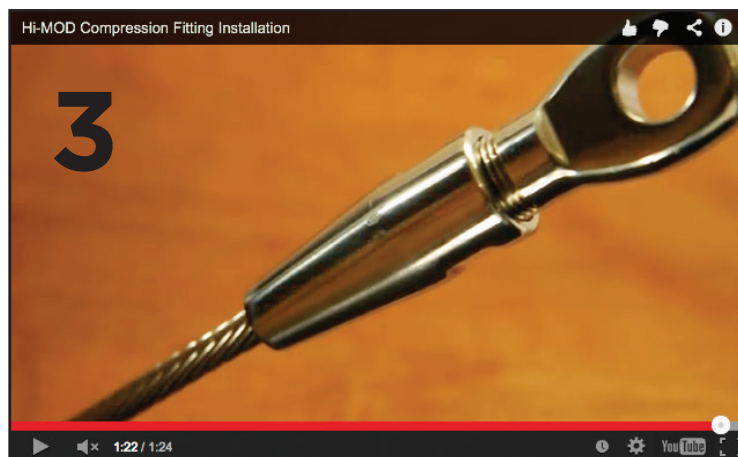
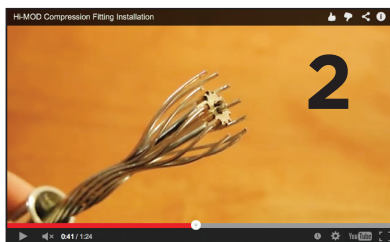
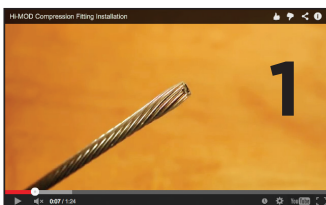
We do not recommend the use of sealant in our fittings. If you choose to use a sealant, a non-acidic polysulfide or better marine-grade sealant is acceptable.

INTERNET BASED INSTALLATION INSTRUCTIONS

For detailed installation instructions and demo videos visit www.hi-mod.com. Any further questions call toll free at **800-346-4296**.

IMPORTANT:

Do not overtighten. We are not responsible for galled threads caused by overtightening.

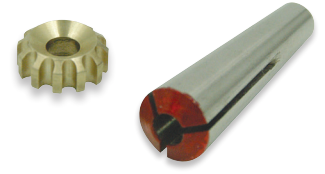


Hi-MOD Assembly Consumables

Part #	Description
LOCTITE-277	Loctite Permanent Thread Locker - 277 50ml Bottle
LOCTITE-7649	Loctite Kleen & Prime 7649 - 4.5oz Aerosol Spray
WIPES-CASE	Hayn Finishing Lint Free Wipes - Case of 300
WIPES-EACH	Hayn Finishing Wipes - Each (1)

COMPRESSION FITTINGS CONE & CROWN RING CHART

FOR USE WITH COMPACT STRAND / DYFORM

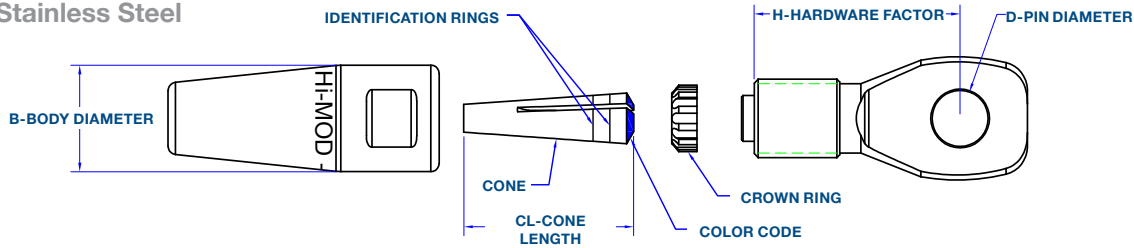


Wire Ø	Wire Type	Body Code	Cone P/N	Cone Color	CL-Cone Length	Ident. Rings	Crown Ring P/N
3mm	1x7	03	CTC18-7	Red	0.551	0	CTCR18
4mm	1x7	04	CTC532-7	Blue	0.787	0	CTCR532
5mm	1x19	05	CTC316	Green	0.933	0	CTCRM5-D
6mm	1x19	06	CTCM6	Red	1.106	0	CTCRM6-D
7mm	1x19	07	CTC932	Green	1.283	0	CTCRM7-D
8mm	1x19	08	CTC516	Black	1.571	0	CTCRM8-D
10mm	1x19	10	CTCM10	Red	1.874	0	CTCRM10-D
12mm*	1x19	12	CTCM12	Black	2.209	0	CTCRM12-D
12mm (Alternate)*	1x19	12	CTC12	Red	2.209	0	CTCRM12-D
14mm	D - 1x25	14	CTCM14-D	Blue	2.543	2	CTCRM14-D
14mm	CS - 1x36	14	CTCM14-CS	No Color	2.235	2	CTCRM14-CS
14mm	CS-1x19	14	CTCM14	Blue	2.550	0	CTCRM14CS-1X19
16mm	D - 1x25	16	CTCM16-D	Green	3.138	2	CTCRM16-D
16mm	CS - 1x36	16	CTCM16-CS	No Color	3.090	2	CTCRM16-CS
19mm	D - 1x31	19	CTCM19-D	Black	3.413	2	CTCRM19-D
19mm	CS - 1x31	19	CTCM19-CS	Black	3.355	2	CTCRM19-CS
19mm	CS - 1x36	19	CTCM19-CS1x36	No Color	2.630	0	CTCRM19-CS1x36

NOTE: There are instances where 12mm Compact Strand does not allow for adequate thread engagement. In this case, the cone is to be substituted with part # CTC12.

Hi-MOD COMPRESSION EYES

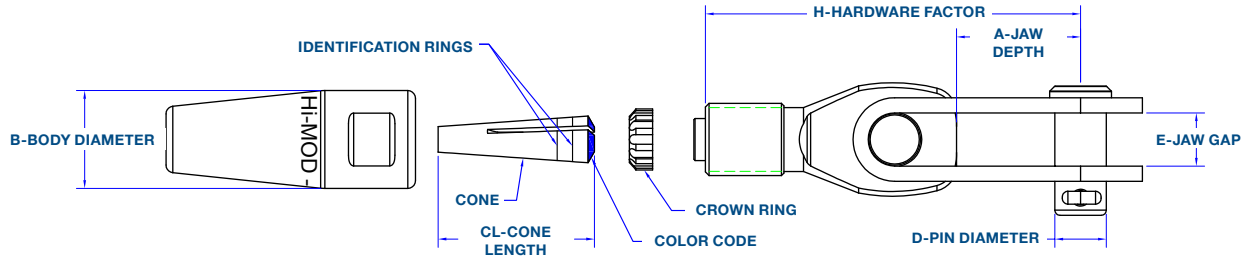
316 Stainless Steel



Compact Strand Dyform	Wire Ø	D-Pin Ø	H-Hardware Factor	HT-Head Thickness	Weight lbs.
38CTEM05-D	5mm	3/8"	1 5/16"	5/16"	0.14
38CTEM06-D	6mm	3/8"	1 3/8"	3/8"	0.21
716CTEM06-D	6mm	7/16"	1 9/16"	3/8"	0.20
12CTEM06-D	6mm	1/2"	1 5/8"	7/16"	0.28
12CTEM07-D	7mm	1/2"	1 3/4"	7/16"	0.37
12CTEM08-D	8mm	1/2"	2"	1/2"	0.52
916CTEM08-D	8mm	9/16"	2"	1/2"	0.60
58CTEM08-D	8mm	5/8"	2 1/4"	9/16"	0.69
58CTEM10-D	10mm	5/8"	2 5/16"	9/16"	0.96
34CTEM12-D	12mm	3/4"	3 1/8"	11/16"	1.96
34CTEM12-CS	12mm	3/4"	3 1/8"	11/16"	1.96
78CTEM14-D	14mm (1X25)	7/8"	3 3/8"	7/8"	2.87
78CTEM14-CS19	14mm (1X19)	7/8"	3 3/8"	7/8"	2.87
78CTEM14-CS36	14mm (1X36)	7/8"	3 3/8"	7/8"	2.87
1CTEM14-D	14mm (1X25)	1"	3 7/16"	7/8"	3.75
1CTEM14-CS19	14mm (1X19)	1"	3 7/16"	7/8"	3.75
1CTEM14-CS36	14mm (1X36)	1"	3 7/16"	7/8"	3.75
1CTEM16-D	16mm (1X25)	1"	3 7/8"	15/16"	4.02
1CTEM16-CS	16mm (1X36)	1"	3 7/8"	15/16"	4.02
118CTEM19-D	19mm	1 1/8"	3 5/8"	1 1/16"	4.66
118CTEM19-CS	19mm	1 1/8"	3 5/8"	1 1/16"	4.66

Hi-MOD COMPRESSION TOGGLES

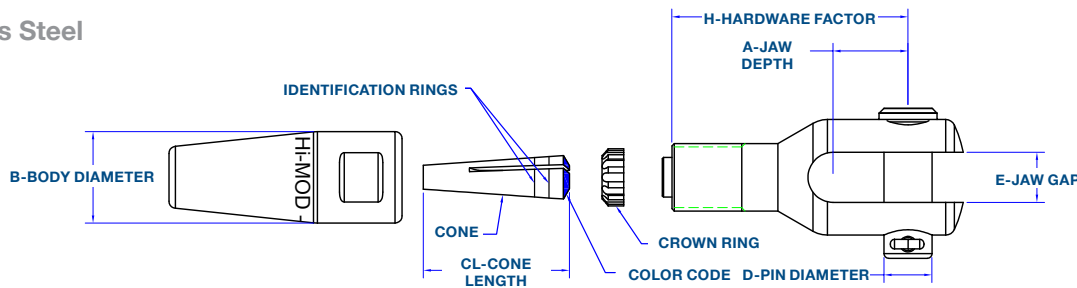
316 Stainless Steel



Compact Strand Dyform	Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	H-Hardware Factor	Weight lbs.
38CTTM05-D	5mm	3/8"	3/4"	3/8"	2 9/16"	0.30
38CTTM06-D	6mm	3/8"	3/4"	3/8"	2 9/16"	0.36
12CTTM06-D	6mm	1/2"	3/4"	1/2"	3 5/16"	0.63
12CTTM07-D	7mm	1/2"	1 1/8"	1/2"	3 7/16"	0.72
12CTTM08-D	8mm	1/2"	1 1/8"	1/2"	3 5/8"	0.88
916CTTM08-D	8mm	9/16"	1 1/8"	9/16"	4 1/2"	2.35
58CTTM08-D	8mm	5/8"	1 1/4"	5/8"	4 1/2"	1.41
58CTTM10-D	10mm	5/8"	1 1/4"	5/8"	4 9/16"	1.68
34CTTM12-D	12mm	3/4"	1 7/8"	3/4"	4 9/16"	3.01
34CTTM12-CS	12mm	3/4"	1 7/8"	3/4"	4 9/16"	3.01
78CTTM14-D	14mm (1X25)	7/8"	2 7/8"	7/8"	7 3/8"	5.54
78CTTM14-CS19	14mm (1X19)	7/8"	2 7/8"	7/8"	7 3/8"	5.54
78CTTM14-CS36	14mm (1X36)	7/8"	2 7/8"	7/8"	7 3/8"	5.54
1CTTM14-CS19	14mm (1X19)	1"	2 7/8"	1"	7 1/2"	7.35
1CTTM14-CS36	14mm (1X36)	1"	2 7/8"	1"	7 1/2"	7.35
1CTTM16-D	16mm (1X25)	1"	2 7/8"	1"	7 1/2"	7.35
1CTTM16-CS	16mm (1X36)	1"	2 7/8"	1"	7 1/2"	7.35
118CTTM19-CS	19mm	1 1/8"	2 3/4"	1 1/8"	7 3/4"	10.00

Hi-MOD COMPRESSION FORKS

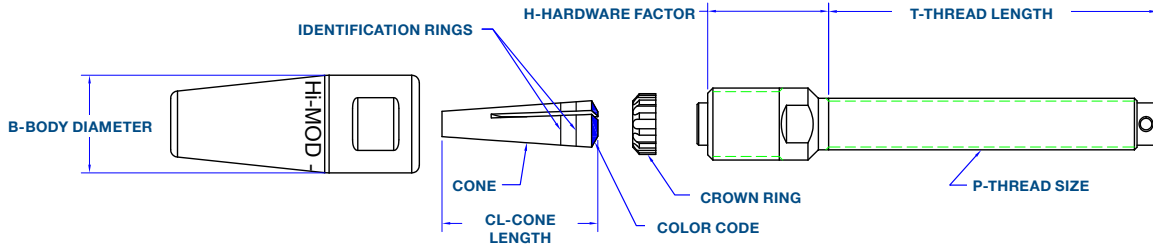
316 Stainless Steel



Compact Strand Dyform	Wire Ø	D-Pin Ø	A-Jaw Depth	E-Jaw Gap	H-Hardware Factor	Weight lbs.
38CTFM05-D	5mm	3/8"	3/4"	3/8"	1 11/16"	0.23
716CTFM06-D	6mm	7/16"	7/8"	7/16"	1 15/16"	0.37
12CTFM07-D	7mm	1/2"	1"	1/2"	2 1/8"	0.56
12CTFM08-D	8mm	1/2"	1"	1/2"	2 1/8"	0.72
916CTFM08-D	8mm	9/16"	1 1/8"	9/16"	2 3/4"	0.99
58CTFM08-D	8mm	5/8"	1 1/4"	9/16"	2 3/4"	1.09
58CTFM10-D	10mm	5/8"	1 1/4"	5/8"	3"	1.40
34CTFM12-D	12mm	3/4"	1 1/2"	3/4"	3 5/8"	2.70
34CTFM12-CS	12mm	3/4"	1 1/2"	3/4"	3 5/8"	2.70
78CTFM14-D	14mm (1X25)	7/8"	1 3/4"	7/8"	4 1/8"	3.23
78CTFM14-CS19	14mm (1X19)	7/8"	1 3/4"	7/8"	4 1/8"	3.23
78CTFM14-CS36	14mm (1X36)	7/8"	1 3/4"	7/8"	4 1/8"	3.23
1CTFM16-D	16mm (1X25)	1"	1 15/16"	1"	4 7/8"	4.61
1CTFM16-CS	16mm (1X36)	1"	1 15/16"	1"	4 7/8"	4.61
118CTFM19-D	19mm	1 1/8"	2 9/32"	1 1/8"	5 1/4"	6.28
118CTFM19-CS	19mm	1 1/8"	2 9/32"	1 1/8"	5 1/4"	6.28

Hi-MOD COMPRESSION STUDS

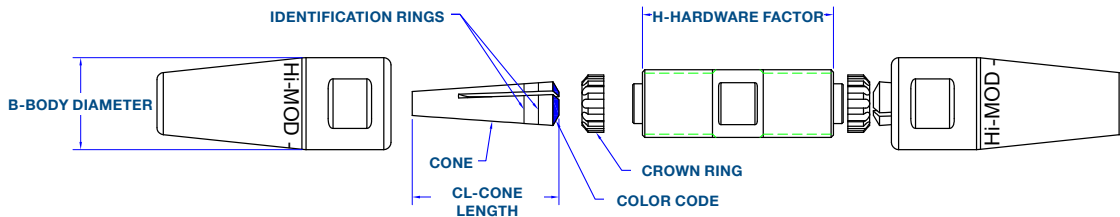
316 Stainless Steel



Compact Strand Dyform	Wire Ø	P-Thread Size	H-Hardware Factor	T-Thread Length	Weight lbs.
38CTSM05-D	5mm	3/8-24	7/8"	2 5/8"	0.17
38CTSM06-D	6mm	3/8-24	1 1/8"	2 5/8"	0.24
716CTSM06-D	6mm	7/16-20	1 1/8"	2 7/8"	0.28
12CTSM06-D	6mm	1/2-20	1 1/16"	3 1/2"	0.35
12CTSM07-D	7mm	1/2-20	1 1/8"	3 1/2"	0.43
12CTSM08-D	8mm	1/2-20	1 1/2"	3 1/2"	0.62
58CTSM08-D	8mm	5/8-18	1 1/2"	3 3/4"	0.75
58CTSM10-D	10mm	5/8-18	1 3/8"	3 3/4"	1.02
34CTSM10-D	10mm	3/4-16	1 1/2"	4 5/8"	1.24
34CTSM12-D	12mm	3/4-16	2"	4 5/8"	1.95
34CTSM12-CS	12mm	3/4-16	2"	4 5/8"	1.95
78CTSM12-D	12mm	7/8-14	2"	5 1/2"	2.85
78CTSM12-CS	12mm	7/8-14	2"	5 1/2"	2.85
78CTSM14-D	14mm (1X25)	7/8-14	2 1/8"	5 1/2"	2.87
78CTSM14-CS19	14mm (1X19)	7/8-14	2 1/8"	5 1/2"	2.87
78CTSM14-CS36	14mm (1X36)	7/8-14	2 1/8"	5 1/2"	2.87
1CTSM16-D	16mm (1X25)	1.0-12	2 3/4"	6 1/4"	4.35
1CTSM16-CS	16mm (1X36)	1.0-12	2 3/4"	6 1/4"	4.35
118CTSM19-D	19mm	1 1/8-12	2 1/2"	6 3/4"	5.27
118CTSM19-CS	19mm	1 1/8-12	2 1/2"	6 3/4"	5.27

Hi-MOD COMPRESSION SPLICE LINKS

316 Stainless Steel



Part #	Wire Ø	H-Hardware Factor	Weight lbs.
CTLM03-D	3mm	1"	0.06
CTLM04-D	4mm	1"	0.10
CTLM05-D	5mm	1 5/16"	0.19
CTLM06-D	6mm	1 3/8"	0.32
CTLM07-D	7mm	1 5/8"	0.50
CTLM08-D	8mm	2 1/8"	0.86
CTLM10-D	10mm	2 1/2"	1.39
CTLM12-CS	12mm	2 7/8"	2.65
CTLM14-CS19	14mm (1X19)	3 1/4"	4.08
CTLM14-CS36	14mm (1X36)	3 1/4"	4.08
CTLM16-CS	16mm (1X36)	3 3/4"	5.70

Hi-MOD INSTALLATION INSTRUCTIONS

Installation Notes

- 1.0 **LOCTITE** 277 curing time is 24 hours to achieve full holding strength. Additionally, application on Stainless Steel **requires** a primer in order to properly cure the **LOCTITE**. Lower temperatures adversely affect cure times. See **LOCTITE** section located on www.hayn.com for technical information.
- 2.0 **DO NOT** over-tighten, threads may seize. Typically, "hand tight" plus an additional 1/2 turn is adequate engagement.
- 3.0 Engineered for exclusive use with Stainless Steel wire ropes.
- 4.0 For routine maintenance, remove the end fitting, tap back the Body, wash, and inspect. Fittings are fully re-usable unless the Cone is distorted.
- 5.0 Application of sealants is **not** recommended for use with Hi-MOD Compression fittings.

1 Wrap a piece of electrician's tape around the wire and saw to length. A clamp or a vice and a file are useful, but not necessary.

2 Slide the Body over the wire as shown **prior** to untwisting the wire rope.

3 Untwist the outer strands by picking out and rotating in the opposite direction of wire lay.

4 Slide the thin end of the Cone over the center core. If tight on wire core, you can spread the Cone open with a screwdriver blade.

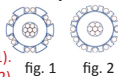
5 Slide Crown Ring over the wire center core with concave side first, facing the already installed Cone.

6 Using the built in depth indicator on the end fitting, push over the Crown Ring until the wire center core bottoms out. This ensures the correct Crown Ring engagement.

7 Twist the outer strands back into position over the Cone. Firmly twist the Crown Ring in the direction of the wire lay while positioning the outer strands in the slots.

8 When all of the outer strands are positioned, the Cone and Crown Ring will remain in place with no assistance. Gently twist the Body back over the wire, rotating in the same direction as the lay of the wire.

NOTE: Wires up to 7/32" (5mm) require 2 strands per slot (fig.1).
Wires 1/4" (6mm) and above have 1 strand per slot (fig.2).



9 Test fit end fitting without **LOCTITE** and only to "hand tight" to ensure free engagement.

10 Remove the end fitting and ensure that the outer strands remain engaged on the Crown Ring.

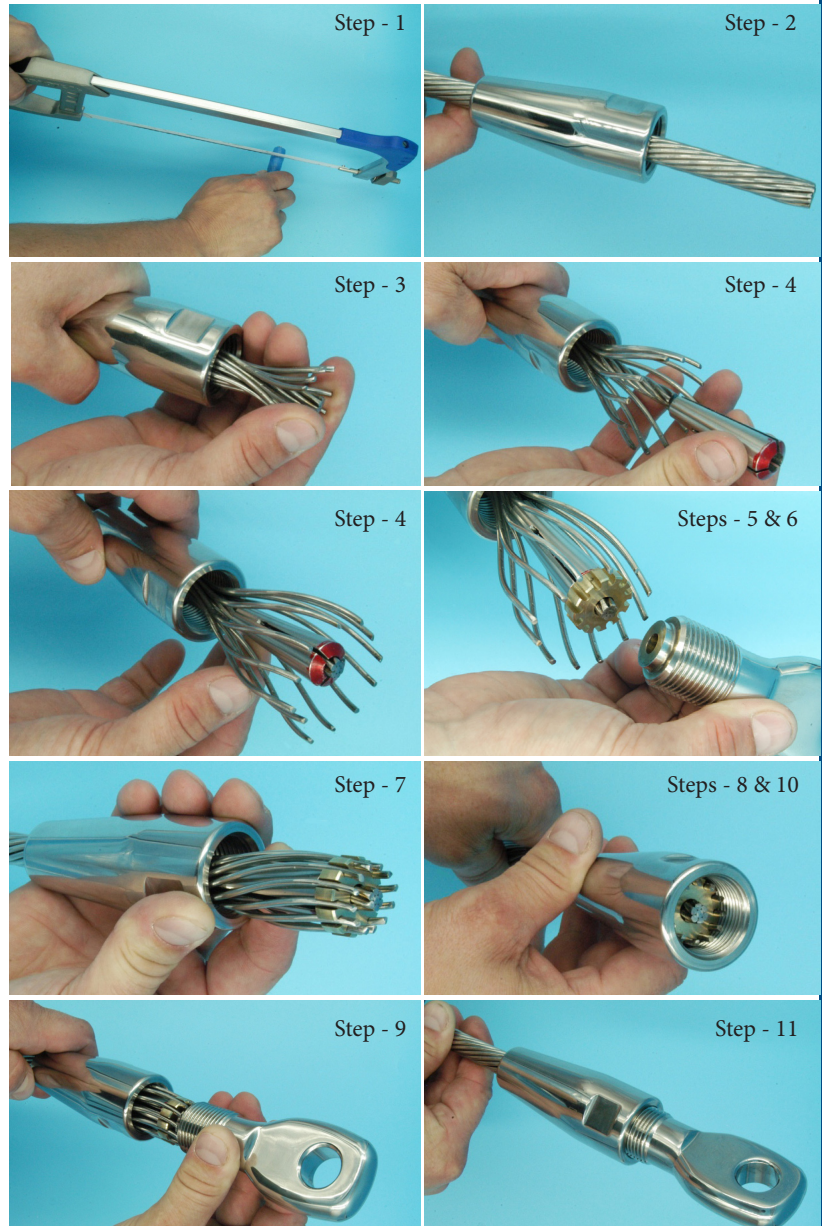
11

Apply **LOCTITE** Primer 7649 on thread surfaces and wait 1 minute to dry.

Apply **LOCTITE** 277 to thread surface to secure the fittings thread engagement.

Screw end fitting on "hand tight" plus an additional 1/2 turn.

Wipe away any residual **LOCTITE** from fitting surface.



FAILSAFE BACKSTAY INSULATORS



The Failsafe Insulator is engineered with an internal ball-socket in the main body that threads onto the connecting end fitting. The internal retaining nut is insulated from the stainless steel body by a Tufnol™ socket, preventing electrical transference to the insulator body or opposite terminal. Should, for any reason, the Tufnol™ be compromised, the nut will bottom out against the stainless housing. While the backstay will loosen, the insulating studs will remain attached to the insulator body. This allows the rig to be re-tensioned until a repair can be made.

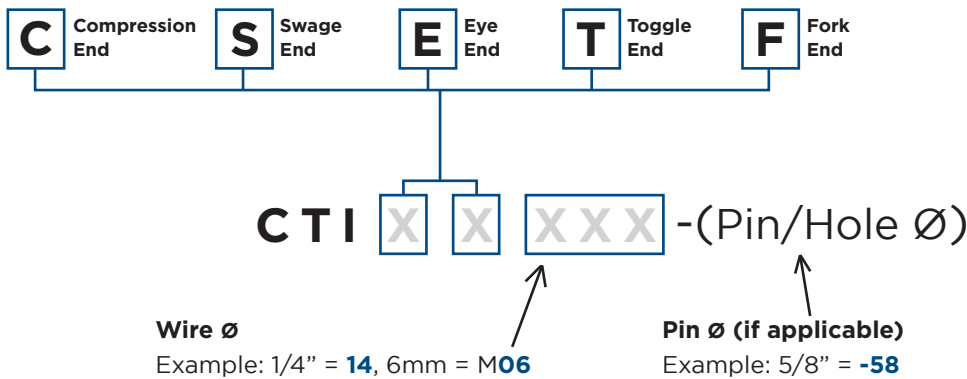
The design of the insulators allows for numerous end fitting combinations. A permanent thread locking compound (**LOCTITE** 277) is applied to the center

body coupling at time of order. Check with your Hayn sales associate about applicable re-stocking fees.

Insulators with Swage style ends can be ordered “Un-Glued” in order to swage with a WireTeknik or equivalent roll swager. Please indicate “Un-Glued” at time of order by including the suffix “-DEMI” to the end of the part number. See the chart below for applicable WireTeknik pulling attachments.

End fitting options include Swage, Compression, Eye, Toggle, Fork, and Rod. See listing below for possible combinations and part number conventions:

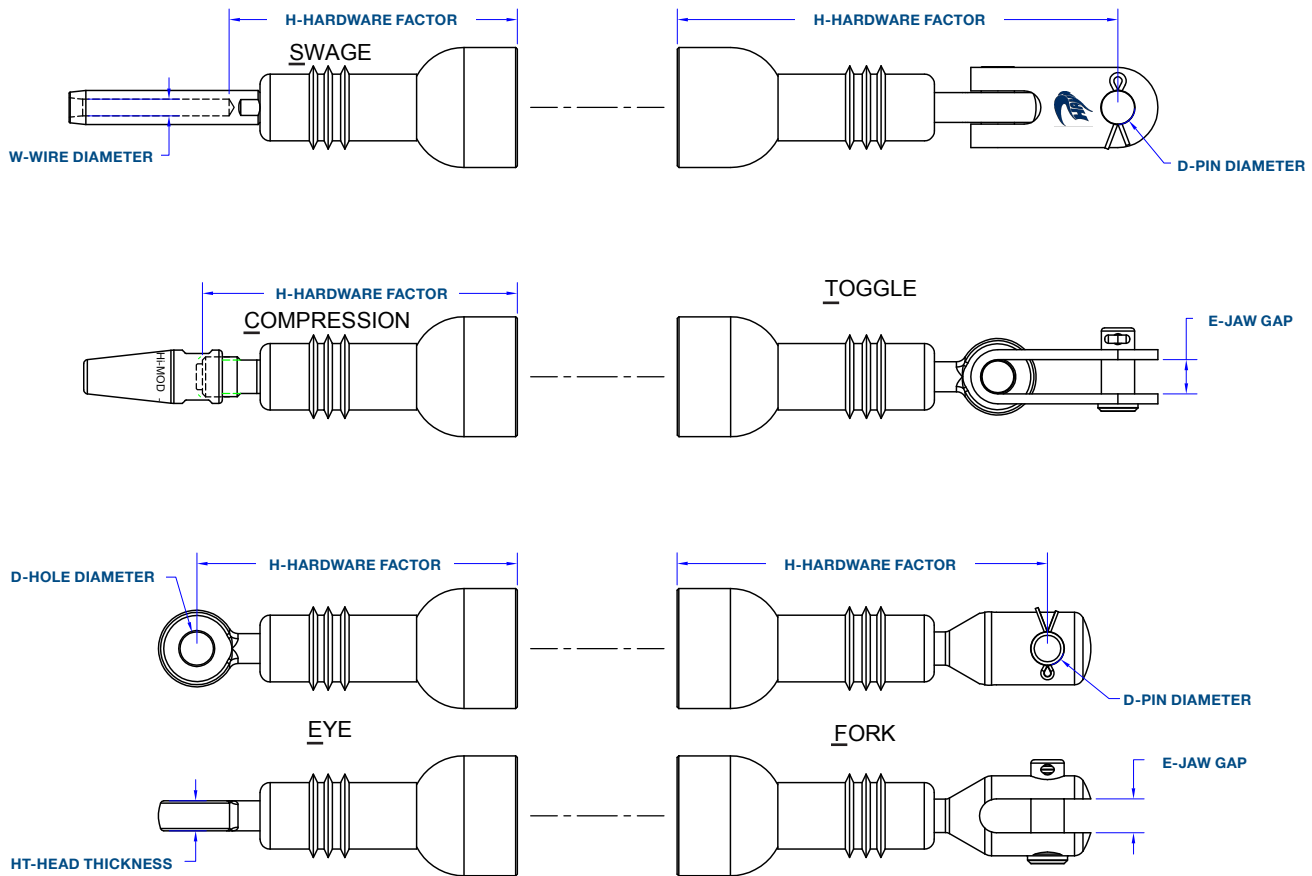
Insulator Part Number Conventions:



-DEMI pulling attachments for WireTeknik Swagers

Imperial Wire Ø	
Wire Size	Part #
3/16" to 1/4"	RIP716
9/32"	RIP12
5/16" to 3/8"	RIP58
7/16" to 1/2"	RIP34
Metric Wire Ø	
5mm to 6mm	RIP716
7mm	RIP12
8mm to 10mm	RIP58
12mm	RIP34

INSULATOR END FITTING CONFIGURATIONS



Insulators are assembled from two halves utilizing a center coupling. Any combination of halves detailed above is available. See page 30 for part number conventions. Permanent thread locking compound (**LOCTITE** 277) is applied at the center joint to finalize the assembly process. See page 25 for **LOCTITE** supplies.

Imperial Wire Sizes		Compression End	Swage End	Eye End	Toggle End	Fork End
W - Wire Ø	D - Pin/Hole Ø	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor
3/16"	7/16"	4"	3 15/16"	4 1/8"	5 11/32"	4 3/4"
7/32"	7/16"	4"	3 15/16"	4 1/8"	5 7/8"	4 3/4"
1/4"	1/2"	4 1/4"	4"	4 1/2"	6 3/16"	4 3/4"
9/32"	1/2"	4 15/16"	4 1/2"	5"	6 11/16"	5 1/2"
5/16"	5/8"	5 1/4"	5 3/8"	6"	8 1/4"	6 7/8"
3/8"	5/8"	6 1/8"	5 3/8"	6"	8 1/4"	6 7/8"
1/2"	3/4"	7 9/16"	6 3/8"	7"	9 11/16"	8"
9/16"	7/8"	8 3/4"	7 11/16"	8 7/8"	1'-0 7/8"	9 3/8"
5/8"	1"	10 1/8"	9 5/16"	9 3/8"	1'-1 1/4"	10 3/4"

Metric Wire Sizes		Compression End	Swage End	Eye End	Toggle End	Fork End
W - Wire Ø	D - Pin/Hole Ø	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor	H- Hardware Factor
5mm	7/16"	4"	3 15/16"	4 1/8"	5 11/32"	4 3/4"
6mm	1/2"	4 1/4"	4"	4 1/2"	6 3/16"	4 3/4"
7mm	1/2"	4 15/16"	4 1/2"	5"	6 11/16"	5 1/2"
8mm	5/8"	5 5/16"	5 3/8"	6"	8 1/4"	6 7/8"
10mm	5/8"	5 7/8"	5 3/8"	6"	8 1/4"	6 7/8"
12mm	3/4"	7 9/16"	6 3/8"	7"	9 11/16"	8"
14mm	7/8"	8 3/4"	7 11/16"	8 7/8"	1'-0 7/8"	9 3/8"
16mm	1"	10 1/8"	9 5/16"	9 3/8"	1'-1 1/4"	10 3/4"

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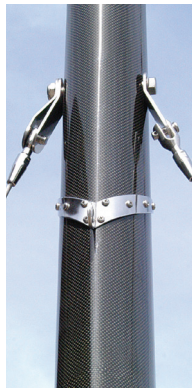
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