



CT INNOVATIONS

Do Better. Be Better.



TOUGHMesh



# CTI Model

## Actions over Buzzwords

Responsiveness

Flexibility

Experience

All too often, suppliers try to make their product fit a bucket with fancy words and charts, delivering little actual value to the customer. At CTI we flipped that script. We started with the customer's needs, and built the product around it.



### Project Savings

Product value is often determined by a project's success. Whether its material, installation efficiency, engineering support, product availability, or just the ease of doing business, CT Innovations represents maximum savings.

### Innovation

With engineering and field installation at our core, CT Innovations is focused on bringing value back to a stagnant market place. There is buzzword innovation, and there's innovation that actually delivers value.

### Market Awareness

With more than 130yrs of electrical and mechanical field experience, CT Innovations has built its reputation by directly engaging with the market to continuously address limitations and proactively provide solutions.

### Time Savings

With an ever increasing shortage of skilled workers, time management is more important than ever. From preliminary layouts and BOM building, to procurement and product installation, CTI can provide solutions.

### Accountability

While most manufacturers today like to point fingers and avoid ownership, CT Innovations believes in accepting responsibility for one's actions and finding solutions to best service our customers' needs.

### Subject Matter Experts

Would you like to talk to a manufacturer with actual experience? With experts skilled in product design, project coordination and field installation, CTI believes educating customers on relevant products and solutions dramatically improves a project's success.





## Ensure Your Success

Who is more passionate and motivated to see your project succeed, you and your immediate team or a random supplier's customer service provider? The answer is easy. You care far more than a disconnected entity. Yet in today's electrical and mechanical industry, we are still 100% reliant on the actions and initiative of our suppliers. Let that sink in. Remembering that employee turnover is at an all-time high and skilled labor is at an all-time low, how do you de-risk your project schedules with items outside your control?

At CTI we want to empower our customers by providing the essential tools needed to be successful and self-sufficient. That is why we have and will continue to invest heavily in providing an easy-to-use, fully integrated e-commerce platform. These online interfaces provide important features such as resource dashboards, secure messaging, shipment notifications, and other self-service tools at your fingertips. Our priority is the customer and customers require a better class of service, with timely, accurate, and easy-to-access information.





## ▶ **Web Based Portals**

A streamlined and convenient way to access information, products, and services. By providing a centralized online platform, web portals enable our customers to easily find and access relevant information and resources, such as account details, product catalogs, support materials, and more.



## ▶ **Instant Tracking**

Stay informed about the status and whereabouts of shipments in real-time. This technology provides the status, location, expected delivery date & time, and any potential delays or issues that may arise during the order process. Increased visibility provides our customers greater control and peace of mind, knowing that they are always in the loop.



## ▶ **Automated Documentation**

Eliminate the need to navigate numerous web pages and call multiple different people to retrieve project documentation. With 24/7 availability, CTI customers can access the resources and information they need at any time, without having to wait for support staff to be available.



## ▶ **Simplified Transactions**

Our customers now have the ability to easily and intuitively build out or upload a project BOM and submit it for quote. Build with peace of mind as CTI put safeguards and checks in place to ensure the accuracy of your BOMs. In addition, every line item on a RFQ will generate a submittal or cutsheet for individual or bulk download.





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# Experience That Applies

Staying ahead of the competition requires more than just a product or service – it demands a partnership with a company that embodies responsiveness and experience. At CT Innovations, we take pride in being your trusted ally in achieving unparalleled success. Experience the difference with CT Innovations:

- 1. Real-Time Solutions:** In a world where market dynamics change at the speed of light, responsiveness is key. Our team is always ready to adapt and provide swift solutions to your challenges. Whether it's a last-minute change in project scope or a sudden market shift, we're here to keep you one step ahead.
- 2. Proven Expertise:** Experience isn't just about the number of years in business; it's about the depth of knowledge gained over time. With over 130 years of industry experience, we have honed our skills, mastered industry trends, and amassed a wealth of knowledge to serve you better. Our seasoned professionals bring unparalleled expertise to every project, to ensure superior outcomes.
- 3. Reliable Support:** When you choose CT Innovations, you gain a partner who is committed to your success. Our track record of reliability and consistency speaks volumes. Count on CTI to meet deadlines, exceed expectations, and provide dependable support every step of the way.
- 4. Risk Mitigation:** Experience equips the CTI team to foresee potential risks and develop strategies to mitigate them. By partnering with CT Innovations, you're investing in proactive risk management, reducing costly setbacks, and ensuring a smoother journey toward your project goals.
- 5. Customized Solutions:** Responsiveness doesn't mean one-size-fits-all solutions. We understand that each client has unique needs. Our team listens intently to your specific requirements and tailors solutions to fit your business. Your success is our top priority, and we leave no stone unturned in crafting bespoke strategies for you.
- 6. Industry Connections:** Over the years, we've built a robust network of industry connections and collaborations. This network provides CTI with valuable resources and insights that we pass on to you. By working with us, you gain access to a world of opportunities and partnerships that can drive your business forward.
- 7. Future-Proofing:** With a responsive and experienced partner like CTI, you can future-proof your business. CTI continuously adapts to emerging trends and technologies, ensuring that your business strategies remain relevant, competitive, and profitable.





# Engineering Services:

## Optimization Delivered

Engineering Services is a highly experienced group of engineers dedicated to better servicing our customer's needs and providing turnkey solutions. With extensive backgrounds in electrical, structural, and mechanical engineering, this globally integrated team is ready to help deliver projects on schedule and to budget.



### Discover Massive Savings with CTI's TSS Calculator



#### 1. Improve Critical Path Schedules



### 2,295 Hours Saved

✓ Condense project duration, and enhances the ability to meet deadlines by identifying and prioritizing the design & installation tasks that directly influence project completion time.

#### 2. Reduce Construction Complexity



### 308.4K Pieces Removed

✓ Minimize the potential for errors, facilitate better resource allocation, and increase project manageability by drastically

#### 3. Minimize Project Expenditures



### \$571.7K Dollars Saved

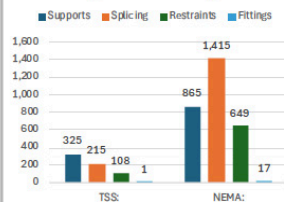
✓ Maximize profitability, resource utilization, and enhance the project's resilience against unforeseen challenges or budget constraints through material and labor management.



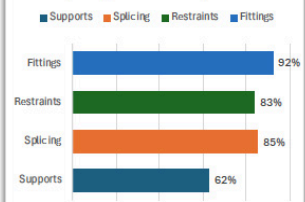
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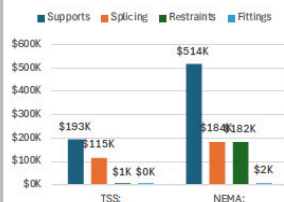
#### Total Project Hours: (NEMA Vs TSS)



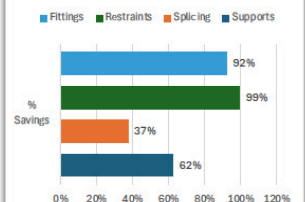
#### Total Project Hours: 2,295 (Hours Saved)



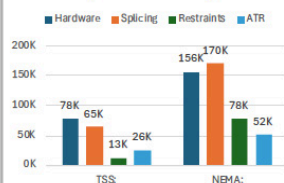
#### Total Project Savings: (NEMA Vs TSS)



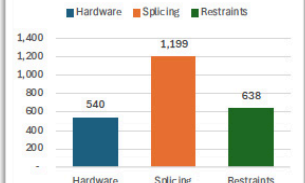
#### Total Project Savings: \$571.7K (Dollars Saved)



#### Component Usage: (NEMA Vs TSS)

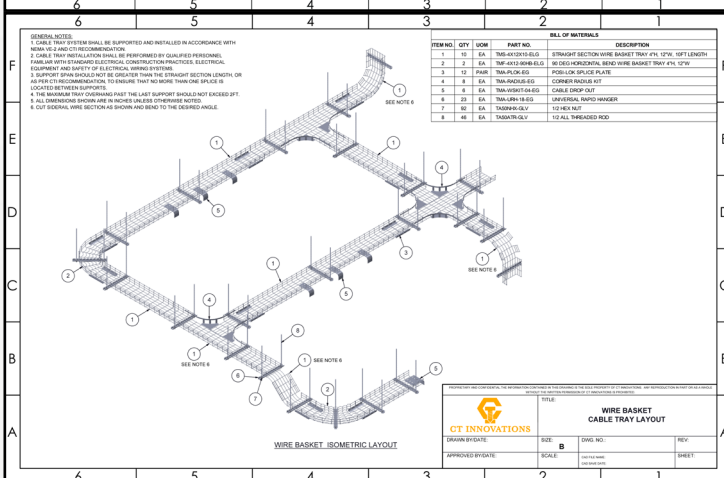
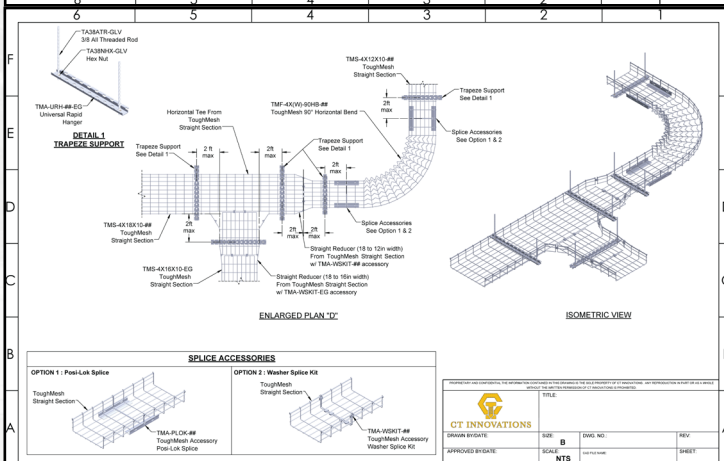
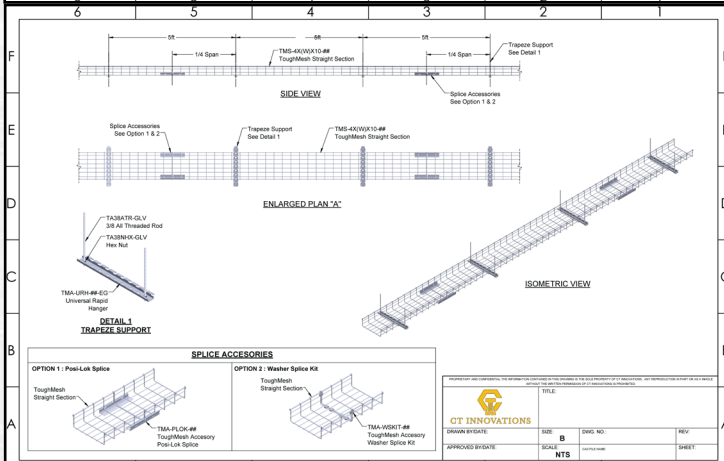
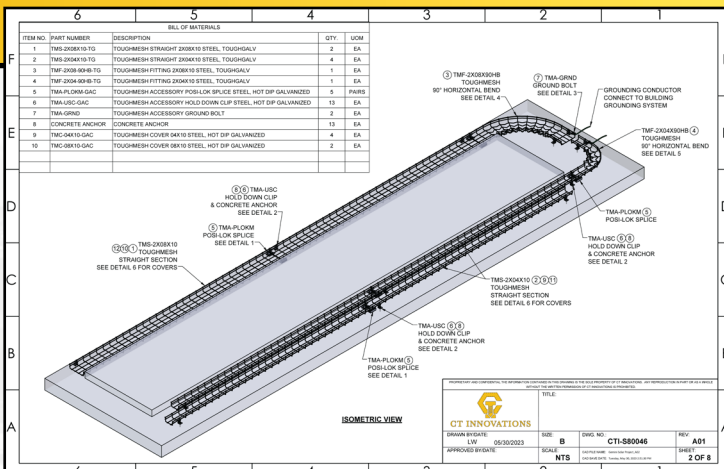


#### Component Installation: 2,377 (Hours Saved)

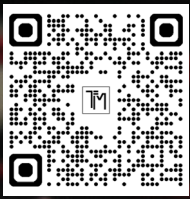


# Services Available:

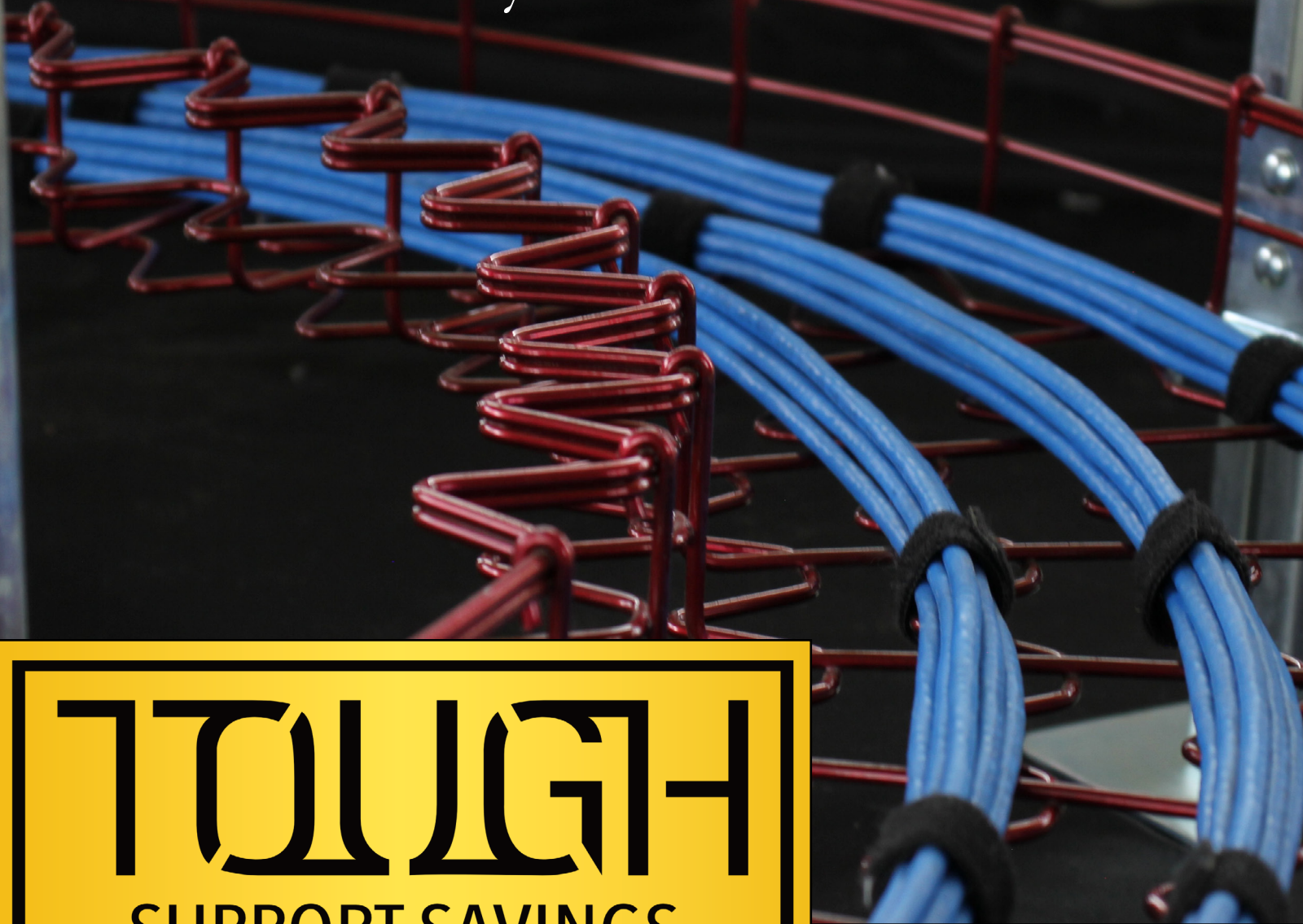
- Dynamic Load Calculations
- Static Load Calculations
- Support Optimization
- Shop Drawings
- Installation Details
- BOM Take-Offs
- Plan Drawings
- PE Stamps
- Cable Tray Layout
- Trayfill Calculation
- Specification Review
- Site Support
- 3D Model Generation
- Pipe Rack Design
- HVAC Rack Design
- MEP Rack Design
- ETO Product Design
- Seismic & NF Certification
- NEMA Certification
- IEC Certification
- UL Certification
- Pull & Slip Tests
- Salt Spray Tests
- Wind Certification







Minimize Risk  
**MAXIMIZE**  
Profitability



# **TOUGH**

## **SUPPORT SAVINGS**

### **Support Structure & Design**

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- Longer Support Spans
- Self Supporting Fittings
- Reduce Support Clashing
- Minimize Materials
- Design Services

### **Installers & Construction**

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- Tool-Less Splice Plates
- Pre-made Fittings
- 70% Less Hardware
- 50% Less Supports
- 100% Less Tray Clamps



# Value & Simplicity

TOUGH Support Savings represents CTI's project optimization recommendations. Derived from years of working alongside end users, EPC's, engineers, distribution, and cable tray installers, CTI set out to create customer value from customer feedback. These manufacturer recommendations are fully compliant with NEMA VE 2 guidelines and supersede industry standard practices. Rest assured that each recommendation underwent extensive application testing to validate product longevity and project practicality.

## Project Optimization

- Engineering Resources
- Design Hours
- Logistic Costs
- Material Handling
- Construction Schedule
- Site Resources
- Project Schedule
- Raw Material Content



ElectroGalvanized



Painted



HotDipGalvanized



304 Stainless



TOUGHGalv



316 Stainless

### Inspection & Review

- **TG** : No 3rd Party Delays
- **TG** : No Touchups Required
- **TG** : Eliminate Zn Whiskers
- **TG** : 40yr Offshore Lifespan
- Automated Consistency

### Procurement & Expediting

- Estimate Quicker
- Quantify LessBuy Less
- Ship & Expedite Less
- Coordinate & Manage Less
- Instant Project Tracking



# TOUGHMesh:

## Differentiate

Wirebasket re-imagined: With decades of commercial and industrial basket experience, CT Innovations compiled the major shortcomings of the product range and developed a full line of solutions to drive usable innovation resulting in actual project savings. Often viewed as a commodity, CT Innovations put forth the effort to give designers and installers critical stand alone benefits and solutions not seen in the industrial, institutional, and data construction segments.



# TIM

## Key Benefits

- Reduce Supports & Anchors
- Reduce Labor & Inconsistencies
- Save Time With Tool-less Accessories
- Maximum Site Adaptability
- Reduce Field Cutting & Maximize Safety
- Superior Finish Options



# TOUGHMesh Standards

## Underwriters Laboratories (UL)

CT Innovations cable tray systems are UL Classified for use as an equipment grounding conductor as denoted by the UL logo on the label below. CTI product labels are supplied affixed to every straight section and fitting.

When a separate grounding cable wire is installed with the cable tray system; the tray is not required to be UL Classified.

A cable tray system meeting the requirements of NEMA VE 1 Section 5.1 may provide adequate safe electrical performance. Consult CT Innovations for product recommendations on the correct methods of bonding and grounding our cable tray systems to NFPA 70 (NEC).

## NFPA 70 : National Electrical Code (NEC)

CT Innovations cable tray systems comply with the requirements of NFPA 70. Cable tray systems have been tested to Section 318-3(c) as suitable use as and electrical equipment grounding conductor (E.G.C.)

## NEMA VE 1 : Testing & Certification

CT Innovations cable tray systems are manufactured, tested, and certified in accordance with and compliance to industry standard NEMA VE-1.

Our published cable tray design loads are based upon testing in compliance with NEMA VE 1, Section 5.2 Load Testing, loading to destruction and include the specified 1.5 factor of safety.

Ladder tray rungs are tested to NEMA VE 1, Section 5.4 Rung Load Capacity. Although this test is optional, CT Innovations believes it important to verify the performance of the rung to ensure the safe and reliable restraint of the cables. CT Innovations has load tested both faces of the rung to ensure superior performance when installed horizontally and vertically.

Link Connectors and other connecting plates are tested for electrical continuity in compliance with NEMA VE 1 Section 4.7 Bonding and Section 5.1 Electrical Continuity of Connections. Measured resistance is across the joint is less than 0.00033W meeting specified NEMA VE 1 electrical continuity performance.



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TMS-4X12X10-TG

Span (ft):	Load (lbs/ft):
5	107.9



## WARNING

DO NOT USE AS A WALKWAY, LADDER OR SUPPORT FOR PERSONNEL. USE ONLY AS A MECHANICAL SUPPORT FOR CABLES, TUBING, AND RACEWAYS.

Min Area: 1.68

Finish: TOUGHGalv

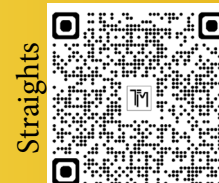
Note: All cables installed in this support product shall be in compliance with NEC regulations.



NMX-J-511-ANCE-2011

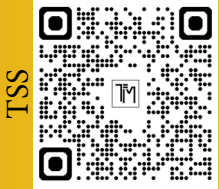
Please contact your local rep with any questions or concerns about this product.

## Product Data Sheets:



# TOUGHMesh Properties

## Design Recommendations:



TOUGH Support Savings (TSS) represents the most optimal blueprint for tray installation & design ensuring you get the most out of our product.



Optimize your next project: The TSS Calculator breaks down the CTI advantage around material savings, complexity reduction, and the removal of labor hours.

## Finish Information:



- Electroplated zinc finish applied after fabrication
- Recommended Application: Indoor
- ASTM B633



- Stainless steel 304 finish applied before fabrication
- Recommended Application: Indoor / outdoor / industrial / offshore
- ASTM: A580/A580M



- Painted finish applied after fabrication
- Recommended Application: Indoor
- ASTM: N/A
- Provide RAL # for specific colors



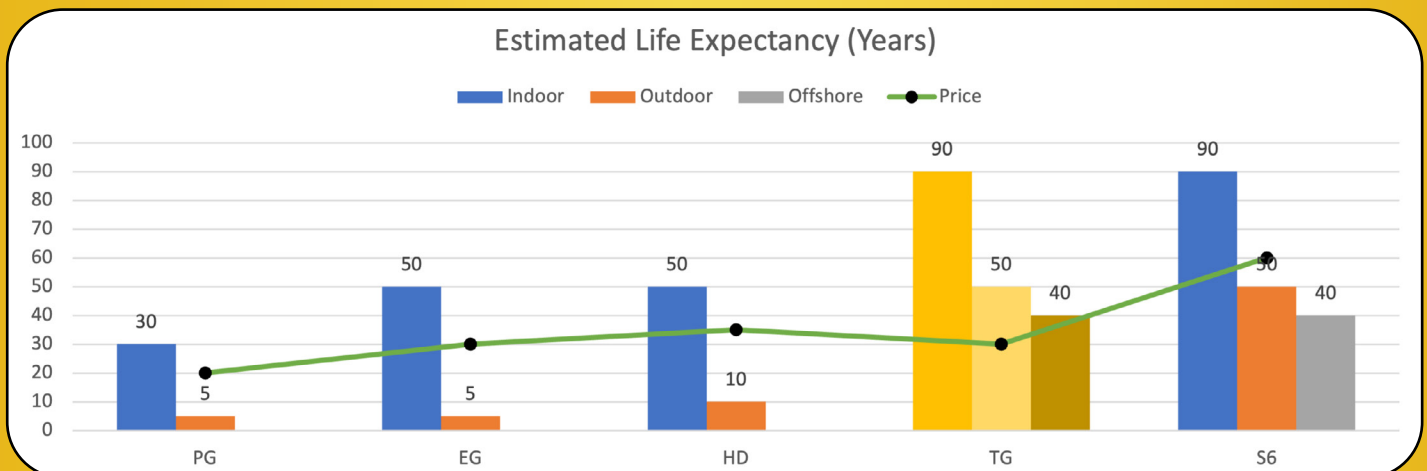
- TOUGHGalv finish applied before fabrication
- Recommended Application: Indoor / outdoor / industrial / offshore
- ASTM B997




- Hot Dip Galvanized finish applied after fabrication
- Recommended Application: Indoor / outdoor / industrial
- ASTM: A123

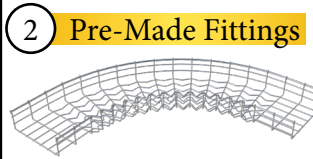



- Stainless steel 316 finish applied before fabrication
- Recommended Application: Indoor / outdoor / industrial / offshore
- ASTM: A580/A580M




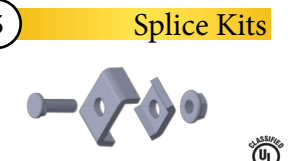
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1 Straight Section  
  
 EG PT S4 TG S6 PG: 22

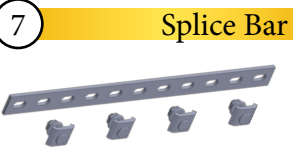
2 Pre-Made Fittings  
  
 EG PT S4 TG S6 PG: 23

3 Covers  
  
 EG PT HB S4 S6 PG: 24


4 Tool-Less Splice  
  
 EG PT HB S4 S6 PG: 25

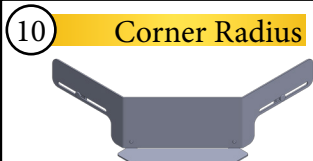
5 Splice Kits  
  
 EG PT HB S4 S6 PG: 25


6 Hold Down Kits  
  
 EG PT HB S4 S6 PG: 25

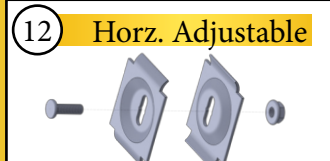
7 Splice Bar  
  
 EG PT HB S4 S6 PG: 25


8 Expansion Splice  
  
 EG PT HB S4 S6 PG: 25

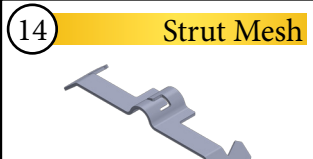
9 Corner Splice  
  
 EG PT S4 S6 PG: 25


10 Corner Radius  
  
 EG PT S4 S6 PG: 25

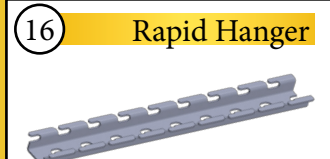
11 Flat Cross Washer  
  
 EG PT HB S4 S6 PG: 26

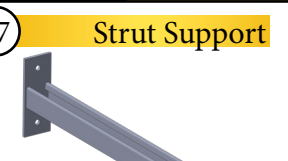
12 Horz. Adjustable  
  
 EG PT HB S4 S6 PG: 26


13 Wall Kit  
  
 EG PT HB S4 S6 PG: 26

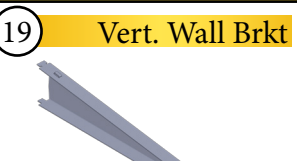
14 Strut Mesh  
  
 EG PT PG: 26

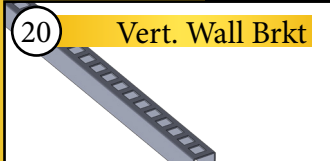
15 Floor Clip  
  
 EG PT HB S4 S6 PG: 26


16 Rapid Hanger  
  
 EG PT HB S4 S6 PG: 27


17 Strut Support  
  
 EG PT HB S4 S6 PG: 27


18 L Support  
  
 EG PT HB S4 S6 PG: 27


19 Vert. Wall Brkt  
  
 EG PT HB S4 S6 PG: 27

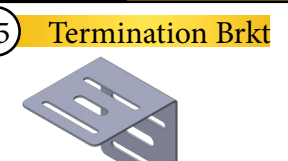
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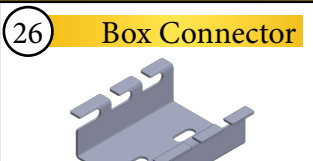
21 Suspension Clip  
  
 EG PT HB S4 S6 PG: 28


22 2in Support  
  
 EG PT HB S4 S6 PG: 28


23 Lay-In Support  
  
 EG PT HB S4 S6 PG: 28

24 4in Support  
  
 EG PT HB S4 S6 PG: 28

25 Termination Brkt  
  
 EG PT S4 S6 PG: 28

26 Box Connector  
  
 EG PT HB S4 S6 PG: 29

27 Accessory Clip  
  
 EG PT HB S4 S6 PG: 29

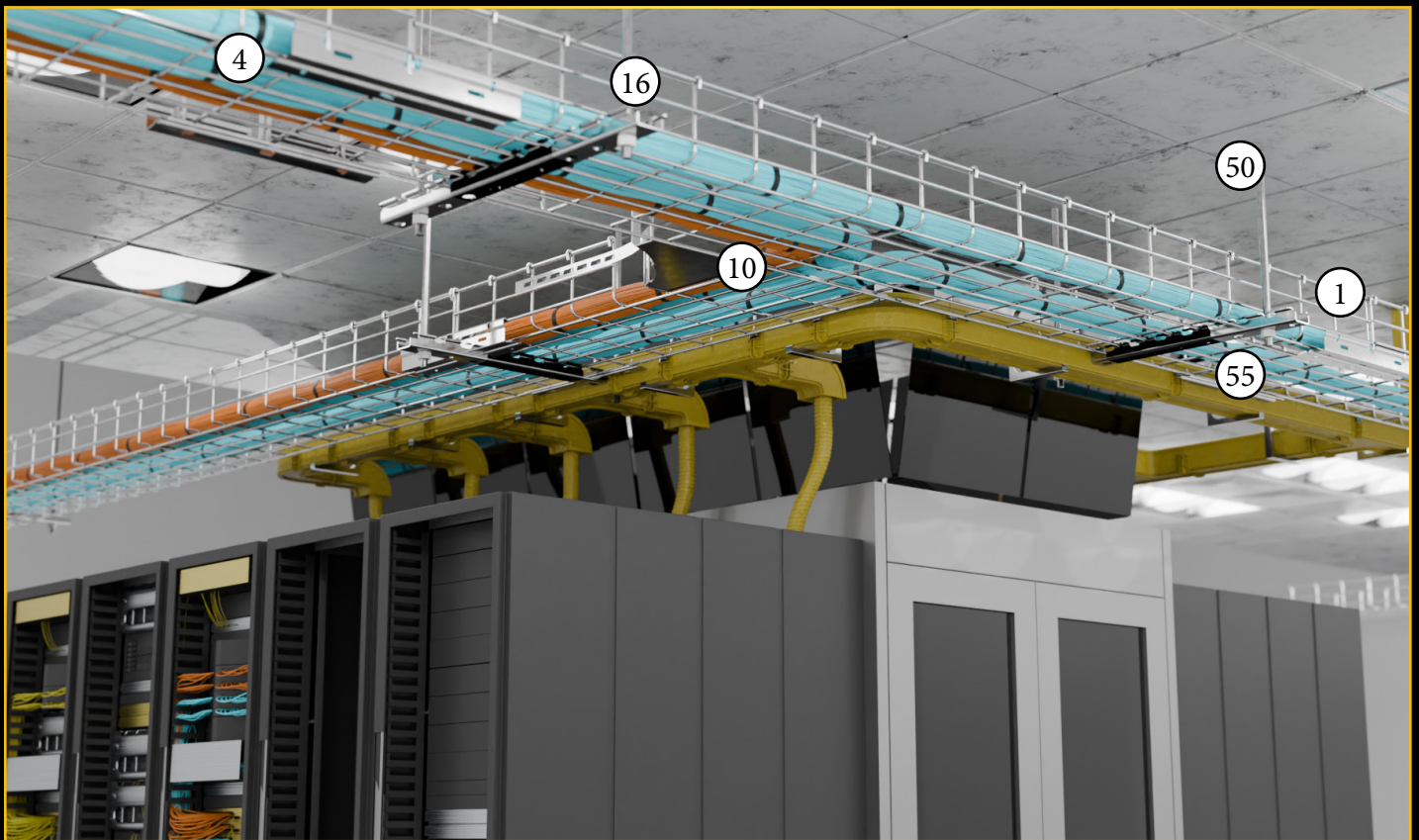
28 Support Plate  
  
 EG PT S4 S6 PG: 29



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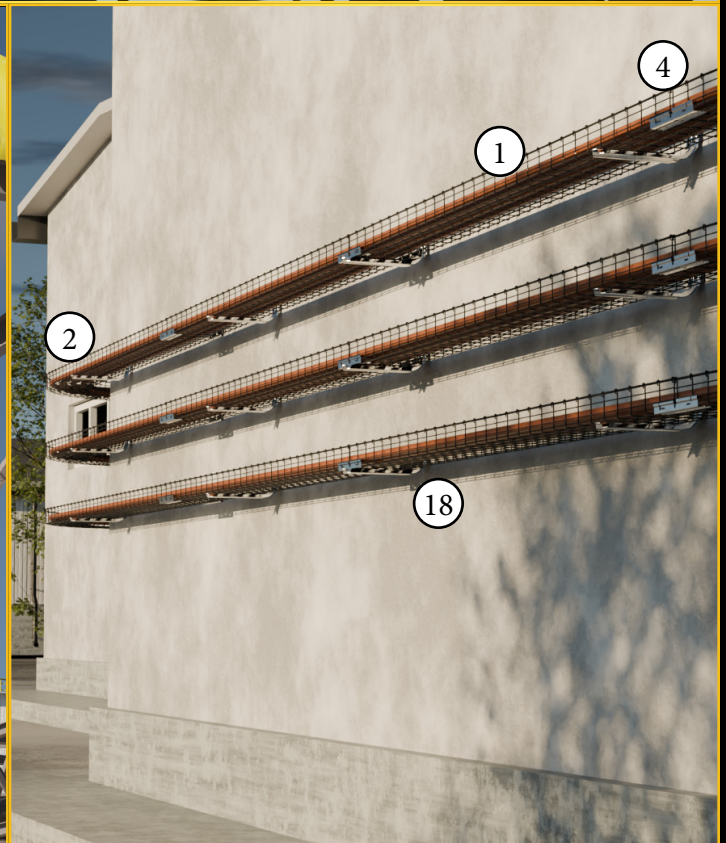
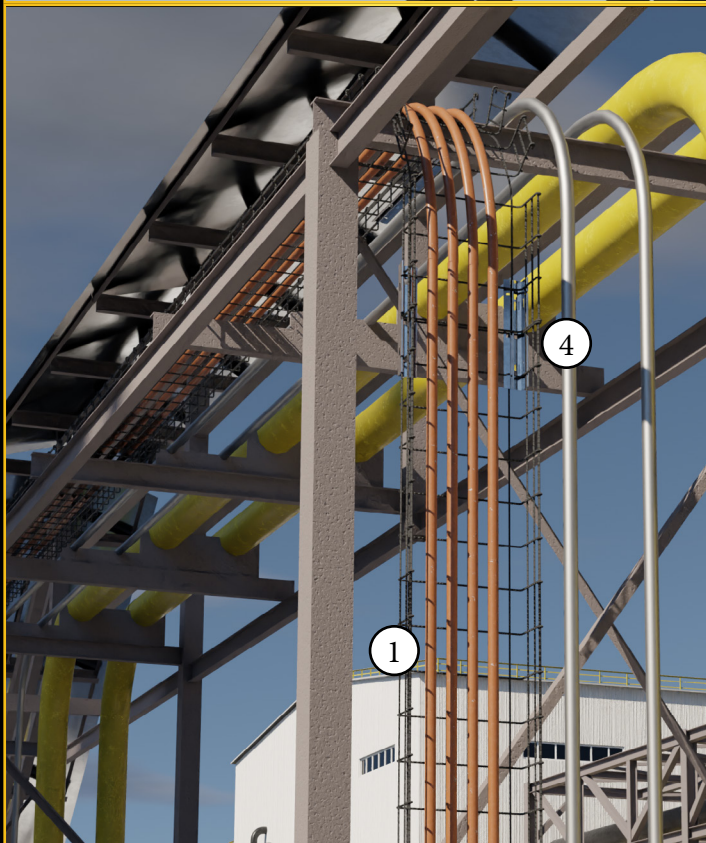
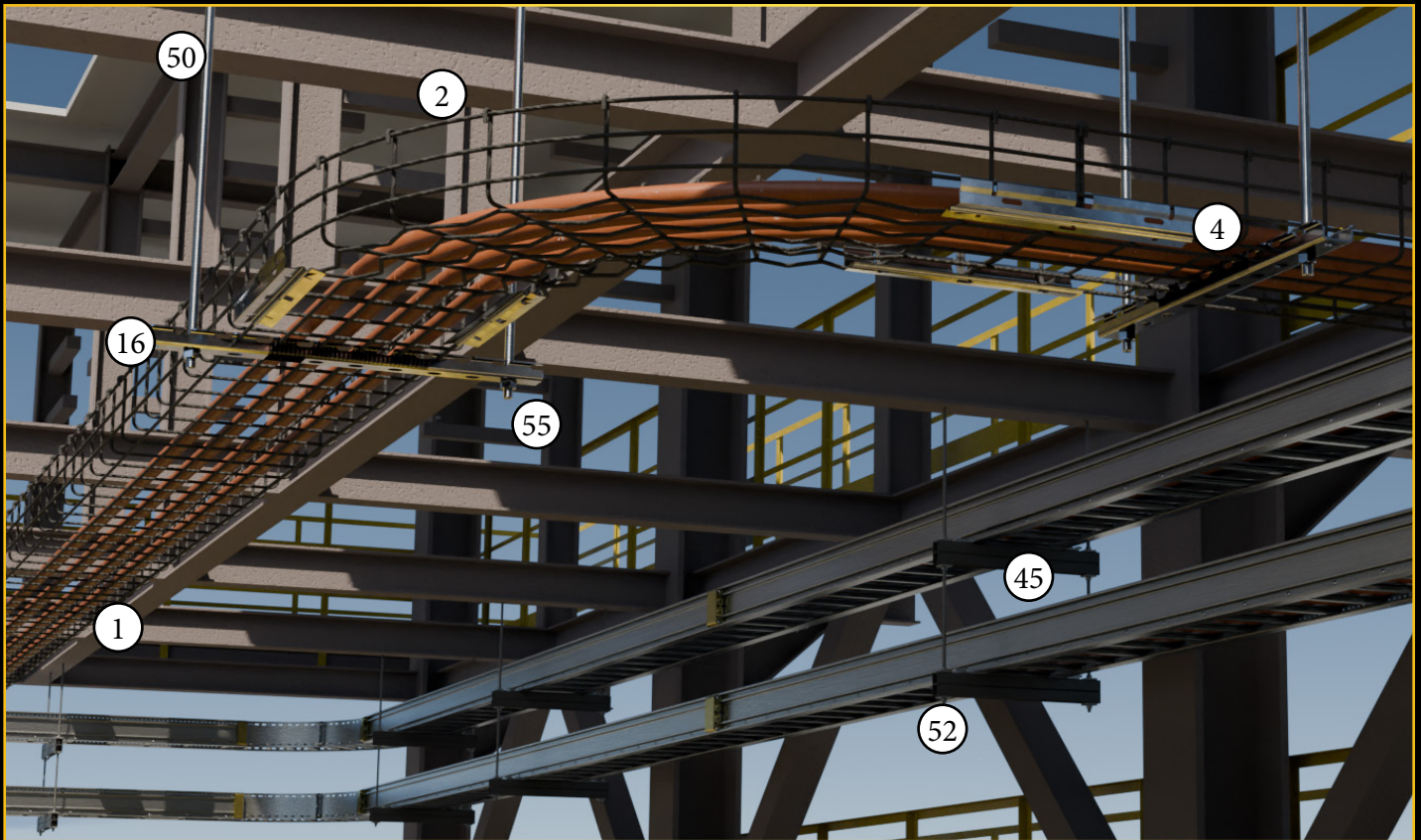
<p>29 Conduit Plate</p>  <p>EG PT S4 S6 PG: 29</p>	<p>30 Drop Out</p>  <p>EG PT S4 S6 PG: 29</p>	<p>31 Blind End</p>  <p>EG PT S4 S6 PG: 30</p>	<p>32 Cable Barrier</p>  <p>EG PT HD S4 S6 PG: 30</p>
<p>33 Cable Bridge</p>  <p>EG PT HD S4 S6 PG: 30</p>	<p>34 BTM Insert</p>  <p>EG PT HD S4 S6 PG: 30</p>	<p>35 JHOOK</p>  <p>EG PT HD PG: 30</p>	<p>36 Ground Bolt</p>  <p>PG: 31</p>
<p>37 Single Roof Block</p>  <p>EG HD PG: 31</p>	<p>38 Bridge Roof Block</p>  <p>EG HD PG: 31</p>	<p>39 HD Roof Block</p>  <p>EG HD PG: 31</p>	<p>40 Adj. Roof Block</p>  <p>EG HD PG: 31</p>
<p>41 Cable Support</p>  <p>PG: 32</p>	<p>42 1 5/8 Channel</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>43 1 5/8 Channel Slot</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>44 3 1/4 Channel</p>  <p>ZN AL HD S4 S6 PG: 32</p>
<p>45 3 1/4 Channel Slot</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>46 7/8 Channel</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>47 7/8 Channel Slot</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>48 1 5/8 Channel</p>  <p>ZN AL HD S4 S6 PG: 32</p>
<p>49 1 5/8 Channel Slot</p>  <p>ZN AL HD S4 S6 PG: 32</p>	<p>50 All Thread Rod</p>  <p>ZN S4 S6 PG: 33</p>	<p>51 ATR Coupler</p>  <p>ZN S4 S6 PG: 33</p>	<p>52 Washers</p>  <p>ZN S4 S6 PG: 33</p>
<p>53 Bolts</p>  <p>ZN S4 S6 PG: 33</p>	<p>54 Channel Nuts</p>  <p>ZN S4 S6 PG: 33</p>	<p>55 Hex Nuts</p>  <p>ZN S4 S6 PG: 33</p>	<p>56 Nylon Nuts</p>  <p>ZN S4 S6 PG: 33</p>

# Application: Data Center





# Application: Energy





# Finish Recommendation

Know Your Environment

EG

ElectroGalvanized

PT

Painted

HD

HotDipGalvanized

S4

304 Stainless

TG

TOUGHGalv

S6

316 Stainless



Indoor



Outdoor



Solar



Industrial



Offshore

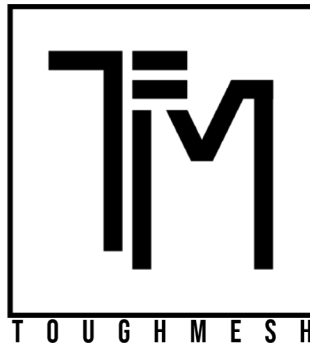
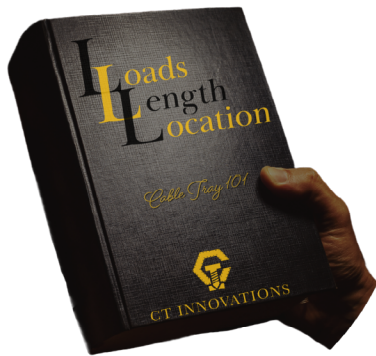


Food & Bev

	Indoor	Outdoor	Solar	Industrial	Offshore	Food & Bev
EG						
PT						
HD						
S4						
TG						
S6						

# Tray Selection

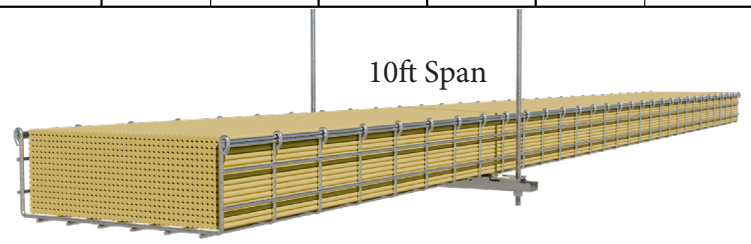
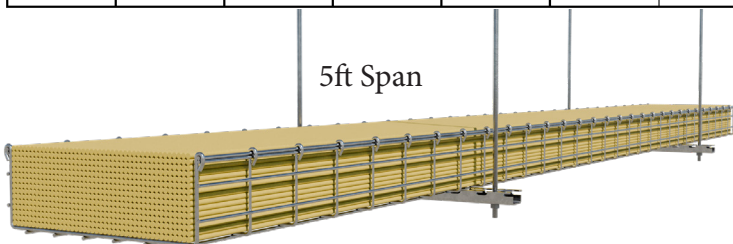
Know Your Loads



<b>LOAD</b> of cables (lbs/ft)	<b>20-100</b> A=50 B=75 C=100	<b>50-150</b> A=50 B=75 C=100 C+=145
<b>LENGTH</b> of support span (ft)	<b>5-10</b> STANDARD 10FT LENGTHS	<b>10-20</b> STANDARD 10FT & 12FT & 20FT LENGTHS
<b>LOCATION</b> of product (environment)		
<b>FOR MORE INFORMATION</b>		

\*NEC article 392 states that tray cable shall not break the top plane of the cable tray system. The example below illustrates a 4x12 mesh system completely filled with CAT 6 cable on a 5ft span and a 10ft span. CTI has engineered and tested a more rigid system to span up to 10ft, reducing support quantity up to 50%.

Tray Size	Tray Run (ft)	Tray Support Span (ft)	Supports Required (#)	Tray Fill Area (in <sup>2</sup> )	Cat 6 Outside Diameter (in)	Cat 6 X-Sectional Area (in <sup>2</sup> )	Cat 6 Weight (lbs/ft)	Cable QTY @ 100% fill (#)	Cable load @ 100% fill (lbs/ft)	NEC 50% fill QTY (#)	NEC 50% fill load (lbs/ft)	max design load @ span (lbs/ft)	max design QTY @ span (#)
4x12 ToughMesh	1000	5	200	48	0.230	0.042	0.026	1155	30	578	15	108	4154
		10	100									30	1154





# TOUGHMesh: Straights

NEMA: 5A, 5B, & 5C



ElectroGalvanized



Painted



HotDipGalvanized



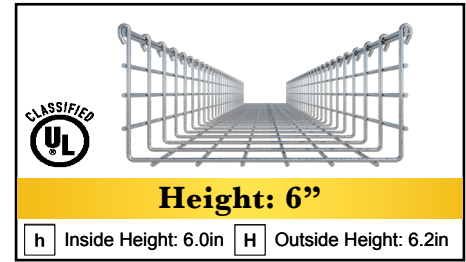
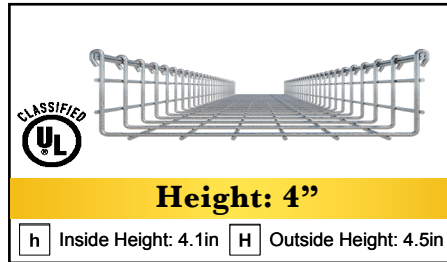
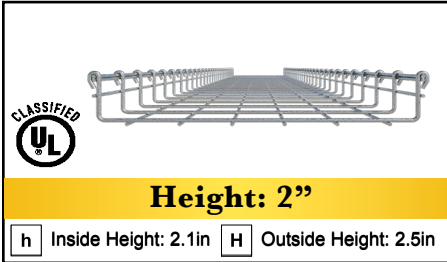
304 Stainless



TOUGHGalv



316 Stainless



Submittals



## TMS-4X12X10-TG

**Product Series & Type**  
 TMS = TOUGHMesh Straight

**Height**  
 2 = 2"  
 4 = 4"  
 6 = 6"

**Inside Width**  
 02 = 2" 16 = 16"  
 04 = 4" 18 = 18"  
 06 = 6" 20 = 20"  
 08 = 8" 24 = 24"  
 10 = 10" 30 = 30"\*  
 12 = 12" 36 = 36"\*

**Length**  
 10 = 10'

**Finish**

\*Please contact CTI for special requests  
 \*\*Not UL Classified as EGC

Basket Size H X W	Load (lbs/ft) 5ft	Load (lbs/ft) 10ft	Reccomended Splices			Est. Cable Fill QTY (50% fill)		Nominal Area (in <sup>2</sup> ) Inside Basket	Physical Weight (lbs)	
			Washer Splice Kits	Posi-Lok Mini	Posi-Lok	CAT 6 (.25in)	CAT 6A (.28in)		10ft sections	
2X2 **	15	11	2			40	32	4		4.5
2X4 **	18	18	2	2		81	64	8		6.7
2X6	24	14	2	2		122	97	12		7.5
2X8	31	13	3	2		163	129	16		8.7
2X10	46	18	3	2		203	162	20		10.6
2X12	55	17	3		2	244	194	24		12.8
2X16	117	31	4		2	326	259	32		19.3
2X18	117	33	4		2	366	292	36		19.7
2X20	123	36	4		2	407	324	40		24.8
2X24	132	37	4		2	489	389	48		27.8
4X4	62	15	4	2		163	129	16		8.7
4X6	66	18	4	2		244	194	24		10.5
4X8	78	18	5	2		326	259	32		12.8
4X10	78	18	5	2		407	324	40		18.4
4X12	108	30	6		2	489	389	48		19.3
4X16	123	36	6		2	652	519	64		24.8
4X18	127	37	6		2	733	584	72		25.7
4X20	137	38	7		2	815	649	80		27.8
4X24	145	40	7		2	978	779	96		28.4
6X8	62	29	6	2		489	389	48		19.3
6X10	62	36	6	2		611	487	60		23.8
6X12	117	36	7		2	733	584	72		24.8
6X16	133	38	7		2	978	779	96		27.8
6X18	144	37	7		2	1100	877	108		29.3
6X20	146	36	8		2	1222	974	120		30.9
6X24	148	37	8		2	1467	1169	144		35.2

# TOUGHMesh: C2G Fittings

## Pre-Formed Radiused Fittings



ElectroGalvanized



Painted



HotDipGalvanized



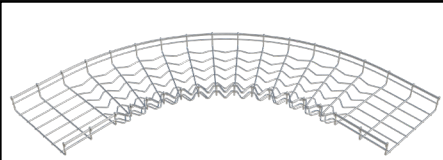
304 Stainless



TOUGHGalv

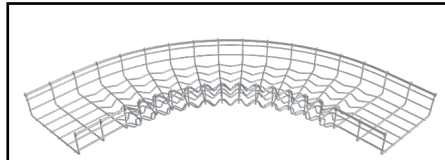


316 Stainless



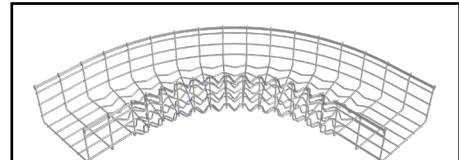
**Height: 2"**

h Inside Height: 2.1in H Outside Height: 2.5in



**Height: 4"**

h Inside Height: 4.1in H Outside Height: 4.5in



**Height: 6"**

h Inside Height: 6.0in H Outside Height: 6.2in

P.D.S.



### TMF-4X12-90HB-TG



**Product Series & Type**  
TMF = TOUGHMesh Fitting

**Height**  
2 = 2"  
4 = 4"  
6 = 6"

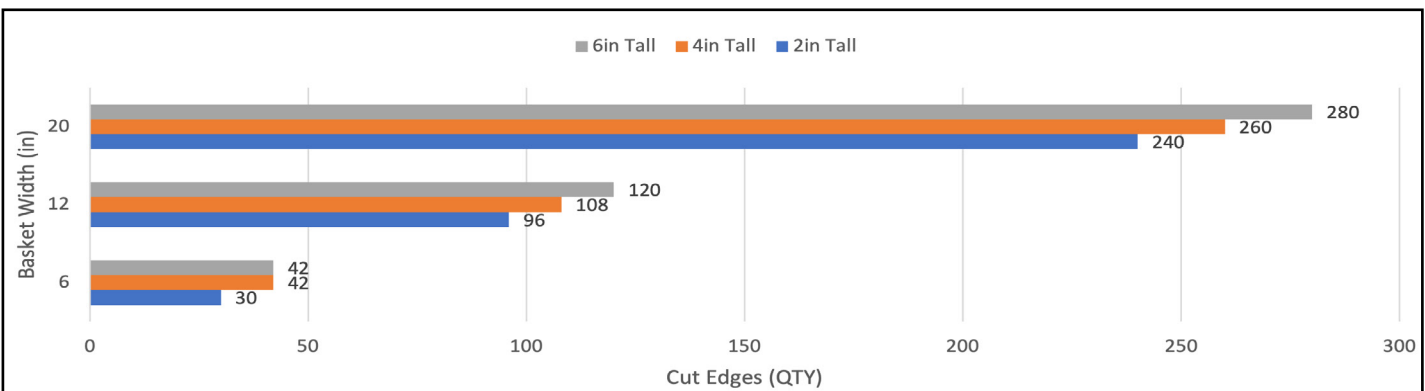
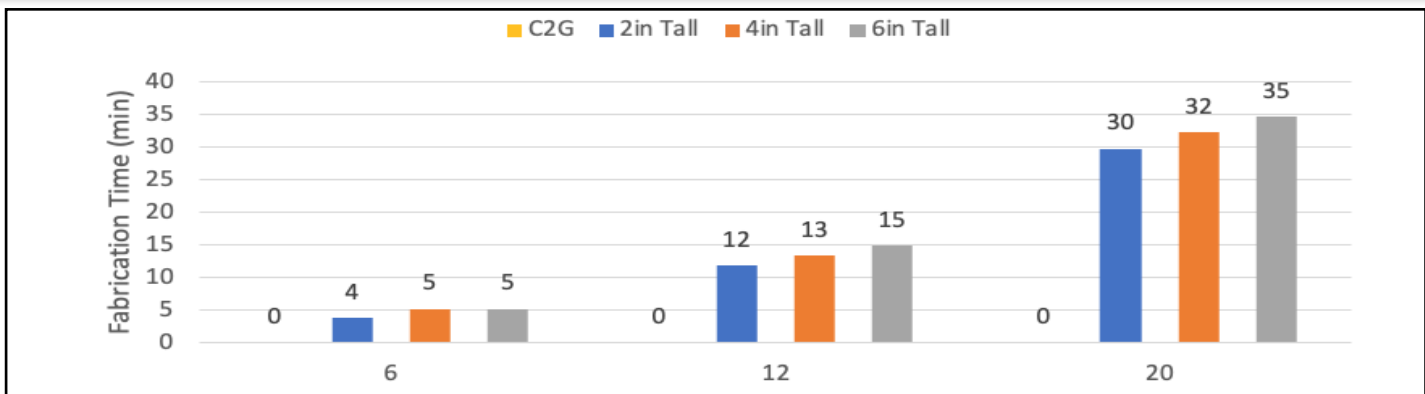
**Inside Width**  
02 = 2" 12 = 12"  
04 = 4" 16 = 16"  
06 = 6" 18 = 18"  
08 = 8" 20 = 20"  
10 = 10"

**Angle**  
45 = 45°  
90 = 90°

**Style**  
HB = Horz Bend

**Finish**  
EG TG  
PT S6  
S4

\*Please contact CTI for special requests



SPEED

SAFETY



# TOUGHMesh: Covers

## Snap-On



ElectroGalvanized



Painted



HotDipGalvanized



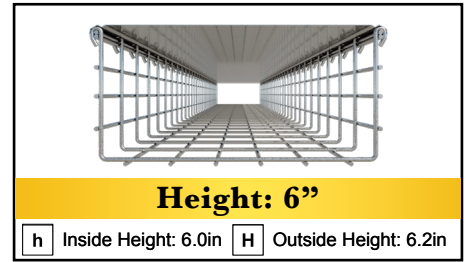
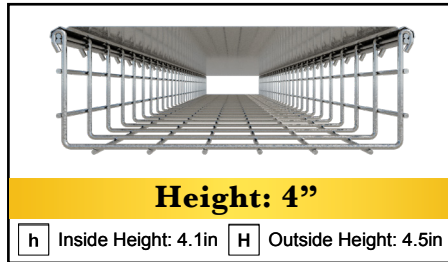
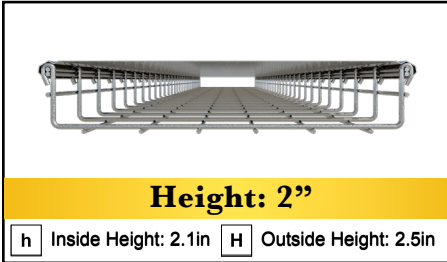
304 Stainless



TOUGHGalv



316 Stainless



## TMC-12X10-EG

Submittals



Product Series & Type  
TMC = TOUGHMesh Cover

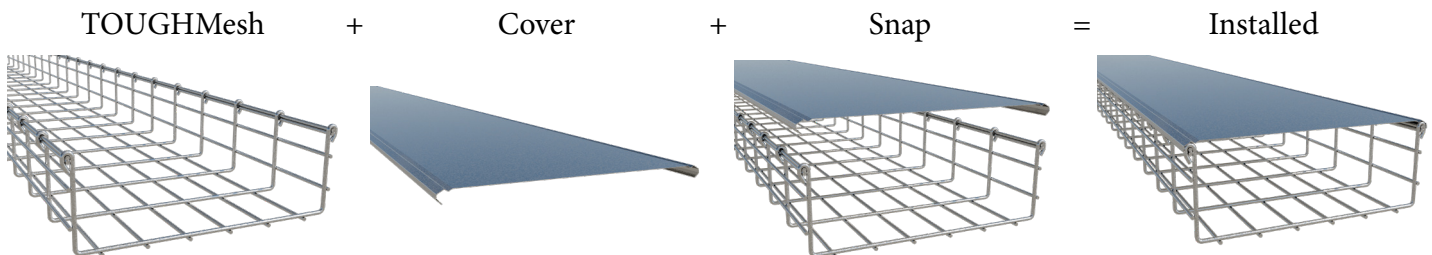
Inside Width  
02 = 2" 12 = 12"  
04 = 4" 16 = 16"  
06 = 6" 18 = 18"  
08 = 8" 20 = 20"  
10 = 10" 24 = 24"

Length  
10 = 10'

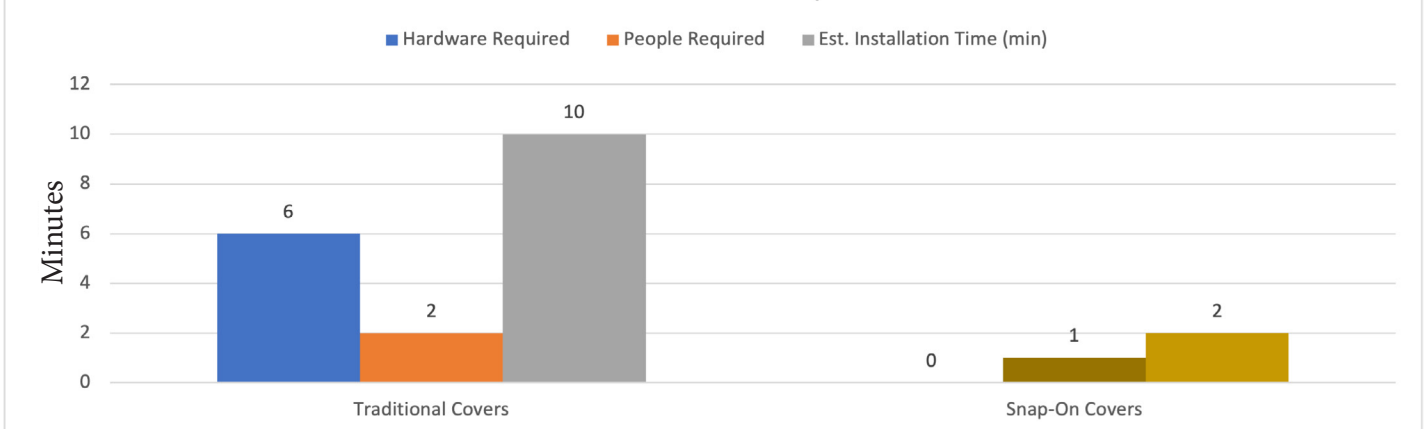
Finish  
EG S4  
PT S6



\*Please contact CTI for special requests  
\*\*Not recommended for high impact



### Cover Installation Comparison


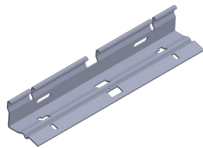
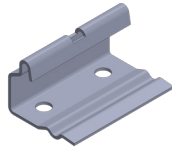


\*Times may vary based on experience and conditions

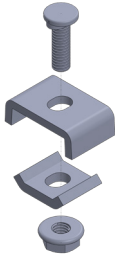

# TOUGHMesh: Accessories

## Splices & Kits

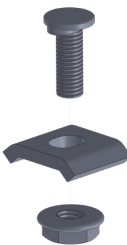

### POSI-LOK SPLICE PLATES

(EG) (HD) (S4) (S6) (PT)	PLOK	PLOKM	<p>Used to quickly fix mesh sections together without tools</p> <p>Type: Splicing          Furnished: Pairs          Material: Steel          Hardware Size: N/A          Hardware Finish: N/A</p> 	Catalog Number	Widths
				TMA-PLOK-(F)	12in - 36in
	X2	X2		TMA-PLOKM-(F)	4in - 10in
	(F) Insert finish: EG, HD, S4, S6, PT				
	Example: TMA-PLOK-EG				

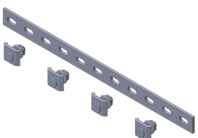
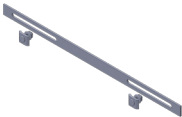
### WASHER SPLICE KITS

(EG) (HD) (S4) (S6) (PT)		X50	<p>Used to fix mesh sections together at union locations</p> <p>Type: Splicing          Furnished: Bag 50          Material: Steel          Hardware Size: 6mm          Hardware Finish: ZN or SS</p> 	Catalog Number	Widths
				TMA-WSKIT-(F)	ALL
				Example: TMA-WSKIT-EG	
				(F) Insert finish: EG, HD, S4, S6, PT	



### HOLD DOWN KITS

(EG) (HD) (S4) (S6) (PT)		X50	<p>Used to restrain accessories and components to mesh system</p> <p>Type: Splicing          Furnished: Bag 50          Material: Steel          Hardware Size: 6mm          Hardware Finish: ZN or SS</p> 	Catalog Number	Widths
				TMA-HDKIT-(F)	ALL
				Example: TMA-HDKIT-EG	
				(F) Insert finish: EG, HD, S4, S6, PT	

### SPLICE BARS

(EG) (HD) (S4) (S6) (PT)	SB	EXSB	<p>Used to connect tray sections in need of extra cable load &amp; expansion</p> <p>Type: Splicing          Furnished: Pair          Material: Steel          Hardware Size: HDKIT Not Included          Hardware Finish: ZN or SS</p>	Catalog Number	Widths
				TMA-SB-(F)	ALL
	X2	X2		TMA-EXSB-(F)	ALL
	(F) Insert finish: EG, HD, S4, S6, PT				
	Example: TMA-SB-EG				

### CORNER BRACKETS (HT'S & HX'S)

(EG) (S4) (S6) (PT)	CSB	CRAD	<p>Used to connect tray sections in need of extra cable load &amp; expansion</p> <p>Type: Splicing          Furnished: Pair          Material: Steel          Hardware Size: HDKIT Not Included          Hardware Finish: ZN or SS</p>	Catalog Number	Widths
				TMA-CSB-(F)	ALL
	X2	X2		TMA-CRAD-(H)-(F)	ALL
	(H) Insert Height: 2,4,6				
	(F) Insert finish: EG, S4, S6, PT				
Example: TMA-CSB-EG					

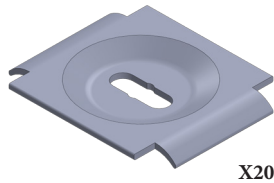


# TOUGHMesh: Accessories

## Guides & Clamps

### FLAT CROSS WASHER

- EG
- HD
- S4
- S6
- PT



X20

Used to secure mesh system to support or directly to ATR

**Type:** Clamps & Guides  
**Furnished:** Bag 20  
**Material:** Steel  
**Hardware Size:** N/A  
**Hardware Finish:** N/A

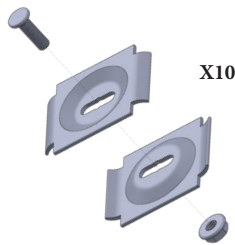
Catalog Number	Widths
TMA-FLXW-(F)	ALL

Example: *TMA-FLXW-EG*

(F) Insert finish: EG, HD, S4, S6, PT

### HORIZONTAL ADJUSTABLE

- EG
- HD
- S4
- S6
- PT



X10

Used to fix mesh sections together while allowing horizontal flexibility

**Type:** Clamp & Guides  
**Furnished:** Bag 10  
**Material:** Steel  
**Hardware Size:** 6mm  
**Hardware Finish:** ZN or SS

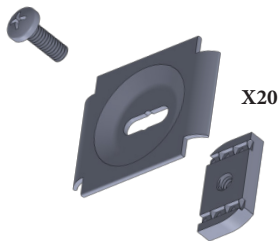
Catalog Number	Widths
TMA-SHAK-(F)	ALL

Example: *TMA-SHAK-EG*

(F) Insert finish: EG, HD, S4, S6, PT

### MESH TO STRUT KIT

- EG
- HD
- S4
- S6
- PT



X20

Used to restrain mesh system directly to strut, ideal for vertical applications

**Type:** Clamps & Guides  
**Furnished:** Bag 20  
**Material:** Steel  
**Hardware Size:** 6mm  
**Hardware Finish:** ZN or SS

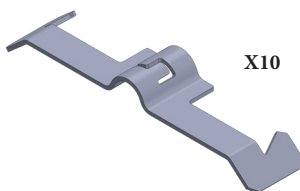
Catalog Number	Widths
TMA-WLKIT-(F)	ALL

Example: *TMA-WLKIT-EG*

(F) Insert finish: EG, HD, S4, S6, PT

### STRUT RETENTION CLIP

- EG
- PT



X10

Used to restrain mesh system to strut without tools

**Type:** Clamps & Guides  
**Furnished:** Bag 10  
**Material:** Steel  
**Hardware Size:** N/A  
**Hardware Finish:** N/A



Catalog Number	Widths
TMA-SRC-(F)	4" - 24"

Example: *TMA-SRC-EG*

(F) Insert finish: EG, PT

### FLOOR CLIP

- EG
- HD
- S4
- S6
- PT



X10

Used to restrain mesh system directly to a surface

**Type:** Clamps & Guides  
**Furnished:** Bag 10  
**Material:** Steel  
**Hardware Size:** Accepts 3/8"  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-FCLP-(F)	ALL

Example: *TMA-FCLP-EG*

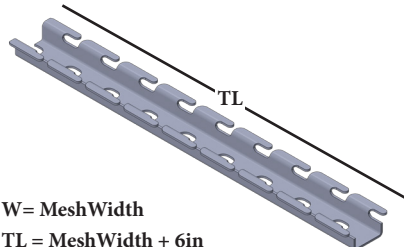
(F) Insert finish: EG, HD, S4, S6, PT

# TOUGHMesh: Accessories

## Supports & Hangers

### UNIVERSAL RAPID HANGER

EG  
HD  
S4  
S6  
PT



W = MeshWidth  
TL = MeshWidth + 6in

Used to support mesh system without the use of guides & clamps

Type: Supports & Hangers  
Furnished: Each  
Material: Steel  
Hardware Size: Accepts 3/8"  
Hardware Finish: N/A

Catalog Number      Widths

TMA-URH-(W)-(F)      ALL

Example: TMA-URH-12-EG

(W) Insert Mesh Width:

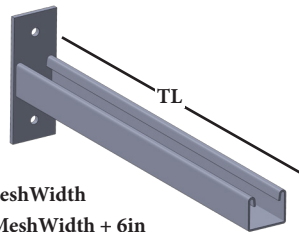
06, 08, 10, 12, 16, 18, 20, 24, 120

(F) Insert finish: EG, HD, S4, S6, PT

\*Note: contact CTI for custom widths

### STRUT WALL BRACKET

EG  
HD  
S4  
S6  
PT



W = MeshWidth  
TL = MeshWidth + 6in

Used to support mesh systems from vertical structure

Type: Supports & Hangers  
Furnished: Each  
Material: Steel  
Hardware Size: Accepts 3/8"  
Hardware Finish: N/A

Catalog Number      Widths

TMA-SWB-(W)-(F)      ALL

Example: TMA-SWB-12-EG

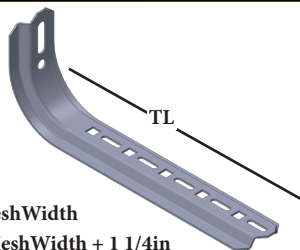
(W) Insert Mesh Width:

06, 08, 10, 12, 16, 18, 20, 24

(F) Insert finish: EG, HD, S4, S6, PT

### L BRACKET

EG  
HD  
S4  
S6  
PT



W = MeshWidth  
TL = MeshWidth + 1 1/4in

Used to restrain mesh system directly to strut; ideal for vertical applications

Type: Supports & Hangers  
Furnished: Each  
Material: Steel  
Hardware Size: **HDKIT Not Included**  
Hardware Finish: N/A

Catalog Number      Widths

TMA-LBRKT-(W)-(F)      ALL

Example: TMA-LBRKT-12-EG

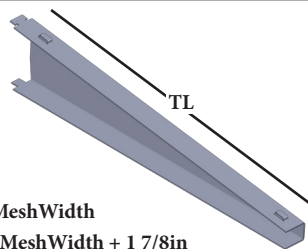
(W) Insert Mesh Width:

06, 08, 10, 12, 16, 18, 20, 24

(F) Insert finish: EG, HD, S4, S6, PT

### VERTICAL WALL SUPPORT BRACKET

EG  
HD  
S4  
S6  
PT



W = MeshWidth  
TL = MeshWidth + 1 7/8in

Used to restrain mesh system to strut without tools

Type: Supports & Hangers  
Furnished: Each  
Material: Steel  
Hardware Size: N/A  
Hardware Finish: N/A

Catalog Number      Widths

TMA-VWSB-(W)-(F)      ALL

Example: TMA-VWSB-12-EG

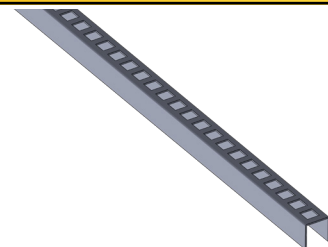
(W) Insert Mesh Width:

06, 08, 10, 12, 16, 18, 20, 24

(F) Insert finish: EG, HD, S4, S6, PT

### VERTICAL WALL SUPPORT STANDARD

EG  
HD  
S4  
S6  
PT



Used to anchor VWSB to structure for multi-layered installations

Type: Supports & Hangers  
Furnished: Each (10ft long)  
Material: Steel  
Hardware Size: N/A  
Hardware Finish: N/A

Catalog Number      Widths

TMA-VWS-(F)      ALL

Example: TMA-VWS-EG

(F) Insert finish: EG, HD, S4, S6, PT

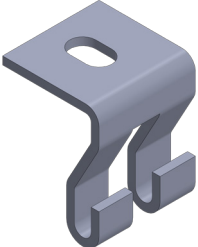
\*Note: contact CTI for custom lengths



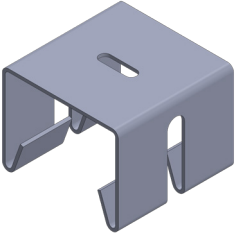
# TOUGHMesh: Accessories

## Supports & Hangers

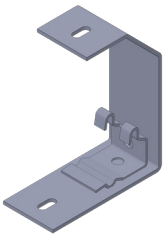
### UNIVERSAL SUSPENSION CLIP

	EG	<p>Used to quickly suspend mesh system from ATR</p> <p><b>Type:</b> Supports &amp; Hangers  <b>Furnished:</b> Bag 10  <b>Material:</b> Steel  <b>Hardware Size:</b> Accepts 3/8"  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Widths
	HD		TMA-USC-(F)	ALL
	S4		Example: <i>TMA-USC-EG</i>	
	S6		(F) Insert finish: EG, HD, S4, S6, PT	
	PT		*Note: to be used in pairs	

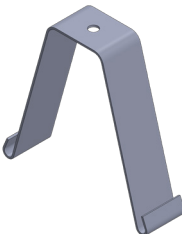
### 2" SUSPENSION CLIP

	EG	<p>Used to hang 2in wire mesh systems from ATR</p> <p><b>Type:</b> Clamp &amp; Guides  <b>Furnished:</b> Bag 10  <b>Material:</b> Steel  <b>Hardware Size:</b> Accepts 1/4"  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Widths
	HD		TMA-2SC-(F)	2"
	S4		Example: <i>TMA-2SC-EG</i>	
	S6		(F) Insert finish: EG, HD, S4, S6, PT	
	PT			

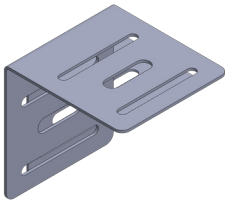
### 2" LAY IN CABLE HANGER

	EG	<p>Used to hang 2in - 6in wire mesh system with snap in clip hanger</p> <p><b>Type:</b> Supports &amp; Hangers  <b>Furnished:</b> Each  <b>Material:</b> Steel  <b>Hardware Size:</b> Accepts 1/4"  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Widths
	HD		TMA-LICH-(F)	2" - 6"
	S4		Example: <i>TMA-LICH-EG</i>	
	S6		(F) Insert finish: EG, HD, S4, S6, PT	
	PT			

### 4" SUSPENSION CLIP

	EG	<p>Used to hang 4in wire mesh systems from ATR</p> <p><b>Type:</b> Clamps &amp; Guides  <b>Furnished:</b> Each  <b>Material:</b> Steel  <b>Hardware Size:</b> Accepts 1/4"  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Widths
	HD		TMA-4SC-(F)	4"
	S4		Example: <i>TMA-4SC-EG</i>	
	S6		(F) Insert finish: EG, HD, S4, S6, PT	
	PT			

### TERMINATION BRACKET

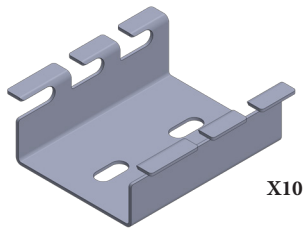
	EG	<p>Used to restrain mesh system directly to a surface</p> <p><b>Type:</b> Splicing  <b>Furnished:</b> Each  <b>Material:</b> Steel  <b>Hardware Size:</b> HDKIT Not Included  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Widths
	S4		TMA-TERMBRKT-(F)	ALL
	S6		Example: <i>TMA-TERMBRKT-EG</i>	
	PT		(F) Insert finish: EG, S4, S6, PT	

# TOUGHMesh: Accessories

## Adapters & Drop Outs

### BOX CONNECTOR

EG  
HD  
S4  
S6  
PT



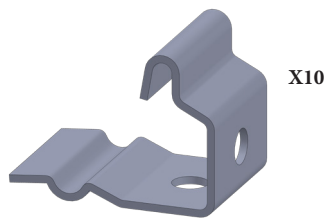
Used to directly support mesh system or accessories

Type: Adapters  
Furnished: Bag 10  
Material: Steel  
Hardware Size: Accepts 1/4"  
Hardware Finish: N/A

Catalog Number	Sizes
TMA-BXCN-(F)	ALL
Example: TMA-BXCN-EG	
(F) Insert finish: EG, HD, S4, S6, PT	

### ACCESSORY MOUNTING CLIP

EG  
HD  
S4  
S6  
PT



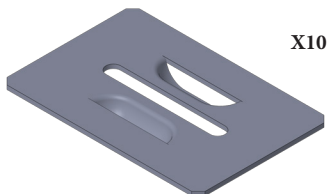
Used to support mesh systems accessories off the side

Type: Adapters  
Furnished: Bag 10  
Material: Steel  
Hardware Size: Accepts 1/4"  
Hardware Finish: N/A

Catalog Number	Sizes
TMA-AMC-(F)	ALL
Example: TMA-AMC-EG	
(F) Insert finish: EG, HD, S4, S6, PT	

### FIXTURE SUPPORT PLATE

EG  
S4  
S6  
PT



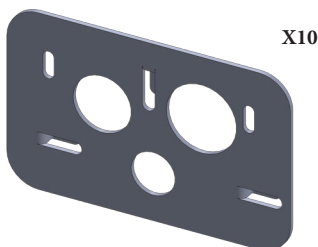
Used to restrain fixtures or hanging products from mesh system

Type: Adapters  
Furnished: Bag 10  
Material: Steel  
Hardware Size: Accepts 1/4"  
Hardware Finish: N/A

Catalog Number	Sizes
TMA-FSP-(F)	4" - 24"
Example: TMA-FSP-EG	
(F) Insert finish: EG, S4, S6, PT	

### CONDUIT PLATE

EG  
S4  
S6  
PT



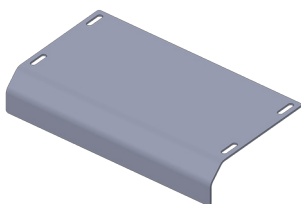
Used to restrain conduit to mesh system

Type: Adapters  
Furnished: Bag 10  
Material: Steel  
Hardware Size: HDKIT Not Included  
Hardware Finish: N/A

Catalog Number	Sizes
TMA-STBU-(F)	ALL
Example: TMA-STBU-EG	
(F) Insert finish: EG, S4, S6, PT	
*Note: Plate fits: 3/4, 1, & 1 1/4 conduit	

### DROP OUT

EG  
S4  
S6  
PT



Used to minimize cable stress upon drop out locations

Type: Drop Out  
Furnished: Each  
Material: Steel  
Hardware Size: HDKIT Not Included  
Hardware Finish: N/A

Catalog Number	Sizes
TMA-CBLD-(W)-(F)	4" - 24"
Example: TMA-CBLD-12-EG	
(W) Insert Mesh Width: 06, 08, 10, 12, 16, 18, 20, 24	
(F) Insert finish: EG, S4, S6, PT	



# TOUGHMesh: Accessories

## Inserts & Jhooks

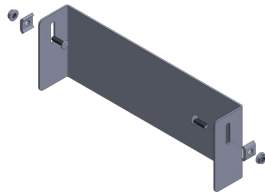
### BLIND END

EG

S4

S6

PT



Used to close off end of mesh system run

**Type:** Inserts  
**Furnished:** Each  
**Material:** Steel  
**Hardware Size:** HDKIT Not Included  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-BLIND-(H)-(W)-(F)	ALL

Example: *TMA-BLIND-4-12-EG*

(H) Insert Height: 2, 4, 6  
(W) Insert Mesh Width:  
**06, 08, 10, 12, 16, 18, 20, 24**  
(F) Insert finish: EG, S4, S6, PT

### CABLE BARRIER

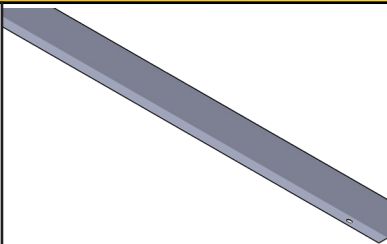
EG

HD

S4

S6

PT



Used to separate or organize cables in a mesh system run

**Type:** Inserts  
**Furnished:** Each  
**Material:** Steel  
**Hardware Size:** HDKIT Not Included  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-CBAR-(H)-(F)	ALL

Example: *TMA-CBAR-4-EG*

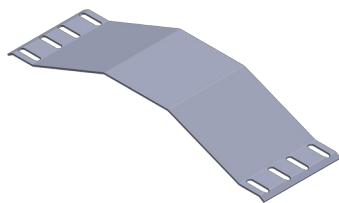
(H) Insert Height: 2, 4, 6  
(F) Insert finish: EG, HD, S4, S6, PT

### CABLE BRIDGE

EG

HD

PT



Used to avoid crossing cables directly over other sensitive cables

**Type:** Inserts  
**Furnished:** Each  
**Material:** Steel  
**Hardware Size:** HDKIT Not Included  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-CBRG-(F)	6" - 24"

Example: *TMA-CBRG-EG*

(F) Insert finish: EG, HD, PT

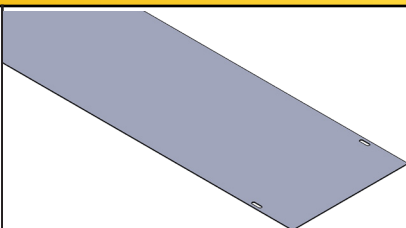
### CABLE LINER

EG

S4

S6

PT



Used to support & protect sensitive cables from environment

**Type:** Inserts  
**Furnished:** Each  
**Material:** Steel  
**Hardware Size:** HDKIT Not Included  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-METI-(W)-(F)	ALL

Example: *TMA-METI-12-EG*

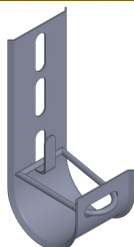
(W) Insert Mesh Width:  
**06, 08, 10, 12, 16, 18, 20, 24**  
(F) Insert finish: EG, S4, S6, PT

### J HOOKS

EG

HD

PT



Used to support small cables off of mesh system or structure

**Type:** Jhooks  
**Furnished:** Each  
**Material:** Steel  
**Hardware Size:** Accepts 1/4"  
**Hardware Finish:** N/A

Catalog Number	Widths
TMA-JHOOK-(D)-(F)	ALL

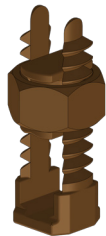
Example: *TMA-JHOOK-100-EG*

(D) Insert Diameter: **100, 150, 200, 400**  
(F) Insert finish: EG, HD, PT

# TOUGHMesh: Accessories

## Grounding & Rooftop Blocks

### GROUNDING LUG



X10

Used to ground mesh system to structure

**Type:** Grounding  
**Furnished:** Bag 10  
**Material:** Tin plated Copper  
**Hardware Size:** Accepts 4/0  
**Hardware Finish:** N/A

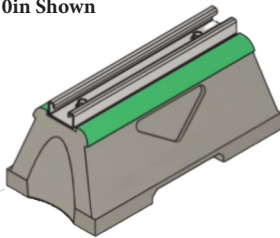


Catalog Number	Widths
TMA-GRND	ALL

### NON-PENETRATING B-SERIES ROOFTOP SUPPORT



\*10in Shown



Used to support strut fixtures and cable tray systems

**Type:** Support  
**Furnished:** Each  
**Material:** Rubber & Steel  
**Hardware Size:** 3/8 HHCS  
**Hardware Finish:** ZN

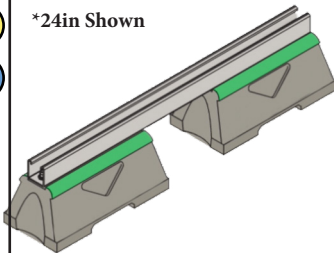
Catalog Number	Width	Load
TSRB-B-10-(F)	10in	2500lbs
TSRB-B-24-(F)	24in	5000lbs
TSRB-B-36-(F)	36in	7500lbs
TSRB-B-48-(F)	48in	10000lbs

(F) Insert Finish: ZN or HD

### NON-PENETRATING C-SERIES ROOFTOP SUPPORT



\*24in Shown



Used to support strut fixtures and cable tray systems

**Type:** Support  
**Furnished:** Each  
**Material:** Rubber & Steel  
**Hardware Size:** 3/8 HHCS  
**Hardware Finish:** ZN

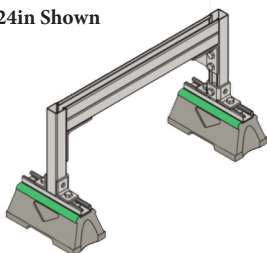
Catalog Number	Width	Load
TSRB-C-28-(F)	28in	1491lbs
TSRB-C-42-(F)	42in	994lbs
TSRB-C-50-(F)	50in	835lbs
TSRB-C-60-(F)	60in	696lbs

(F) Insert Finish: ZN or HD

### NON-PENETRATING D-SERIES ROOFTOP SUPPORT



\*24in Shown



Used to support cable tray systems with heavier loads

**Type:** Support  
**Furnished:** Each w/ Hardware  
**Material:** Rubber & Steel  
**Hardware Size:** 3/8 HHCS  
**Hardware Finish:** ZN

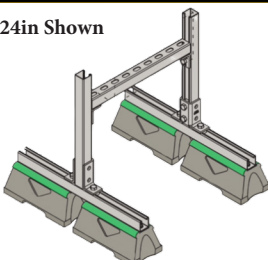
Catalog Number	Width	Load
TSRB-D-24-(F)	24in	3500lbs
TSRB-D-36-(F)	36in	3250lbs

(F) Insert Finish: ZN or HD

### NON-PENETRATING E-SERIES ROOFTOP SUPPORT



\*24in Shown



Used to support cable tray systems with adaptability

**Type:** Support  
**Furnished:** Each w/ Hardware  
**Material:** Rubber & Steel  
**Hardware Size:** 3/8 HHCS  
**Hardware Finish:** ZN

Catalog Number	Load
TSRB-E-(H)-(W)-(L)-(F)	750-2000lbs

(H): 23, 29, 41, 53

(W): 18, 24, 36, 48

(L): 24, 36


(F): ZN, HD

Example: TSRB-E-41X18X36-HD

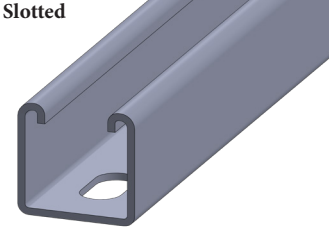
# TOUGHMesh: Accessories

## Trapeze Fixings

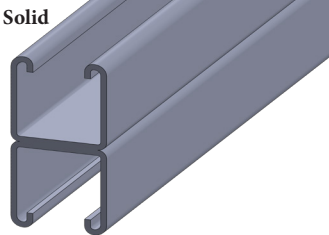
### CABLE KITS

	<p>Used to directly suspend TOUGHMesh system from structure</p> <p><b>Type:</b> Support  <b>Furnished:</b> Each  <b>Material:</b> Steel  <b>Hardware Size:</b> N/A  <b>Hardware Finish:</b> N/A</p>	Catalog Number	Load
		TTA-CABLEKIT-4-(L)	495lbs
		TTA-CABLEKIT-5-(L)	715lbs
		(L) Length: <b>05, 10, 15, 20</b>	
		*Safety Factor 5:1	
		Example: TTA-CABLEKIT-4-05	

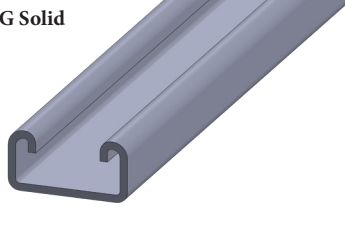
### 12G OR 14G 1 5/8 SINGLE CHANNEL

	<p>Metal framing used to erect supports, &amp; create structure</p> <p><b>Type:</b> Channel  <b>Furnished:</b> Each  <b>Material:</b> Steel, Stainless, Aluminum  <b>Hardware Size:</b> 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	Catalog Number	Type	Length
		TC(G)158-(L)-(F)	Solid	10ft
		TC(G)158S-(L)-(F)	Slots	20ft
		(G) Gauge: <b>2,4</b>		
		(L) Length: <b>120, 240</b>		
		(F) Finish: <b>ZN, HD, S4, S6, AL</b>		
		12G Example: TC2158S-120-ZN		

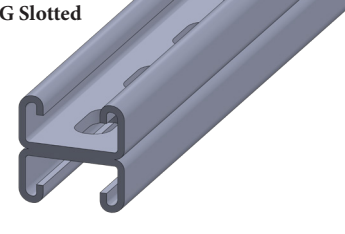
### 12G OR 14G 1 5/8 DOUBLE CHANNEL

	<p>Metal framing used to erect supports, &amp; create structure</p> <p><b>Type:</b> Channel  <b>Furnished:</b> Each  <b>Material:</b> Steel, Stainless, Aluminum  <b>Hardware Size:</b> 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	Catalog Number	Type	Length
		TC(G)158H-(L)-(F)	Solid	10ft
		TC(G)158SH-(L)-(F)	Slots	20ft
		(G) Gauge: <b>2,4</b>		
		(L) Length: <b>120, 240</b>		
		(F) Finish: <b>ZN, HD, S4, S6, AL</b>		
		14G Example: TC4158H-240-HD		

### 12G OR 14G 7/8 SINGLE CHANNEL

	<p>Shallow Metal framing used to erect supports, &amp; create structure</p> <p><b>Type:</b> Channel  <b>Furnished:</b> Each  <b>Material:</b> Steel, Stainless, Aluminum  <b>Hardware Size:</b> 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	Catalog Number	Type	Length
		TC(G)078-(L)-(F)	Solid	10ft
		TC(G)078S-(L)-(F)	Slots	20ft
		(G) Gauge: <b>2,4</b>		
		(L) Length: <b>120, 240</b>		
		(F) Finish: <b>ZN, HD, S4, S6, AL</b>		
		12G Example: TC2078-120-ZN		

### 12G OR 14G 7/8 DOUBLE CHANNEL

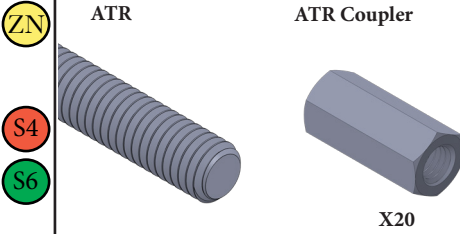
	<p>Shallow Metal framing used to erect supports, &amp; create structure</p> <p><b>Type:</b> Channel  <b>Furnished:</b> Each  <b>Material:</b> Steel, Stainless, Aluminum  <b>Hardware Size:</b> 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	Catalog Number	Type	Length
		TC(G)078H-(L)-(F)	Solid	10ft
		TC(G)078SH-(L)-(F)	Slots	20ft
		(G) Gauge: <b>2,4</b>		
		(L) Length: <b>120, 240</b>		
		(F) Finish: <b>ZN, HD, S4, S6, AL</b>		
		14G Example: TC4078SH-240-ZN		



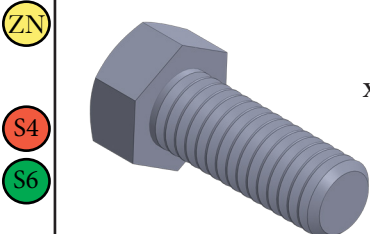
# TOUGHMesh: Accessories

## Trapeze Fixings

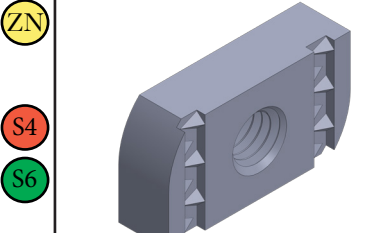
### ALL THREAD ROD & COUPLER

	<p><b>ATR</b></p> <p><b>ATR Coupler</b></p>	<p><b>Used to hang or connect cable tray systems to structure</b></p> <p><b>Type:</b> Hardware  <b>Furnished:</b> Each / Bag 20  <b>Material:</b> Steel / Stainless  <b>Hardware Size:</b> 1/4", 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	<p>Catalog Number</p> <p>Type</p>
	<p>X20</p>		<p>TA(D)X144-ATR-(F)</p> <p>ATR</p>
	<p>TA(D)CP-(F)</p> <p>Coupler</p>		
<p>(D) Insert Dia: <b>25, 38, 50</b>  (F) Insert Finish: <b>ZN, S4, S6</b></p>			

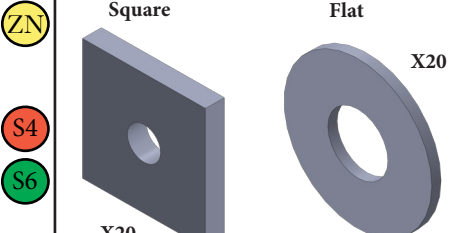
### HEX HEAD CAP SCREWS

	<p><b>Hex Head Cap Screw</b></p>	<p><b>Used to secure accessories to tray &amp; strut systems</b></p> <p><b>Type:</b> Hardware  <b>Furnished:</b> Bag 20  <b>Material:</b> Steel / Stainless  <b>Hardware Size:</b> 1/4", 3/8", &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	<p>Catalog Number</p> <p>Thread</p>
	<p>X20</p>		<p>TA(D)HX(L)-(F)</p> <p>Course</p>
	<p>(D) Dia (in): <b>25, 38, 50</b>  (L) Length: <b>075, 100, 125, 150, 200</b>  (F) Finish: <b>ZN, S4, S6</b>  <i>Example: TA38HX100-ZN</i></p>		

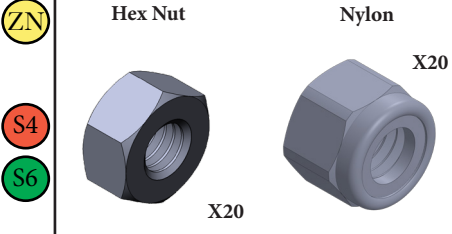
### CHANNEL NUTS

	<p><b>Channel Nut</b></p>	<p><b>Used to secure accessories to strut profiles</b></p> <p><b>Type:</b> Hardware  <b>Furnished:</b> Bag 20  <b>Material:</b> Steel / Stainless  <b>Hardware Size:</b> 1/4", 3/8", &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	<p>Catalog Number</p> <p>Spring Type</p>
	<p>X20</p>		<p>TA(D)NC-(F)</p> <p>None</p>
	<p>TA(D)NCS-(F)</p> <p>Standard</p>		
<p>(D) Dia (in): <b>25, 38, 50</b>  (F) Finish: <b>ZN, S4, S6</b></p>			<p>TA(D)NCSS-(F)</p> <p>Short</p>

### FLAT & SQUARE WASHERS

	<p><b>Square</b></p> <p><b>Flat</b></p>	<p><b>Used to distribute large loads and act as a shim when securing fixtures</b></p> <p><b>Type:</b> Hardware  <b>Furnished:</b> Bag 20  <b>Material:</b> Steel / Stainless  <b>Hardware Size:</b> 1/4", 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	<p>Catalog Number</p> <p>Type</p>
	<p>X20</p>		<p>TF(D)W-(F)</p> <p>Flat</p>
	<p>TF(D)WSQ-(F)</p> <p>Square</p>		
<p>(D) Insert Dia: <b>25, 38, 50</b>  (F) Insert Finish: <b>ZN, S4, S6</b></p>			

### HEX & NYLON NUTS

	<p><b>Hex Nut</b></p> <p><b>Nylon</b></p>	<p><b>Used to secure ATR, Hex Head Cap Screws, and other bolts</b></p> <p><b>Type:</b> Hardware  <b>Furnished:</b> Bag 20  <b>Material:</b> Steel / Stainless  <b>Hardware Size:</b> 1/4", 3/8" &amp; 1/2"  <b>Hardware Finish:</b> Zinc, Stainless</p>	<p>Catalog Number</p> <p>Type</p>
	<p>X20</p>		<p>TA(D)HX-(F)</p> <p>Hex Nut</p>
	<p>TA(D)HN-(F)</p> <p>Nyloc</p>		
<p>(D) Insert Dia: <b>25, 38, 50</b>  (F) Insert Finish: <b>ZN, S4, S6</b></p>			



Rev: F

21 Waterway Avenue Ste 300 The Woodlands, TX 77380

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[WWW.TOUGHINNOVATIONS.COM](http://WWW.TOUGHINNOVATIONS.COM)

+1 (281) 524 - 9323