

INNOVATIONS

in Rooftop Support Systems



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rooftopsupportsystems.com

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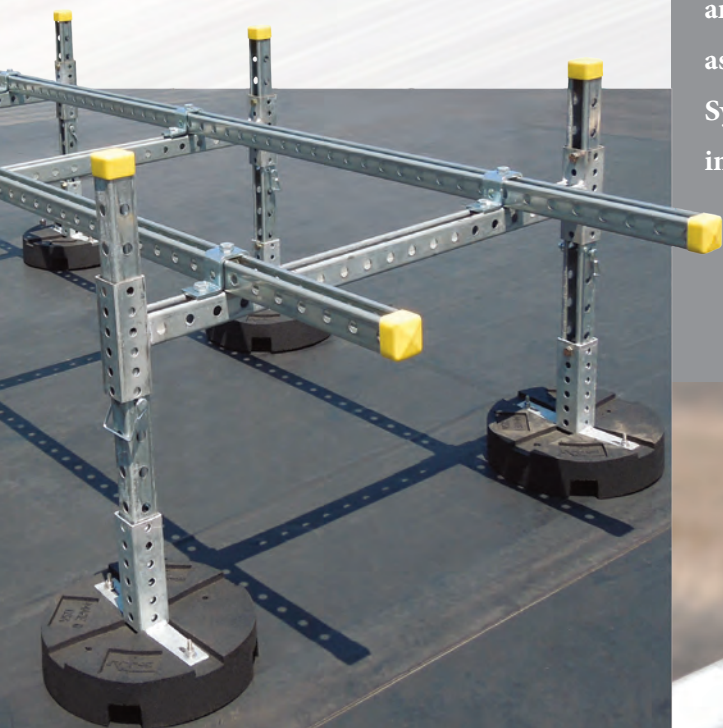


RTS Applications

RTS Applications •

The Rooftop Support Systems (RTS) division of Eberl Iron Works, Inc. strives to manufacture products that save our customers time and money. Our economical and labor saving designs are sure to do just that! The versatility and adjustability that has been engineered into each of our products ensures a fast and efficient installation on any project.

By shipping RTS products cut to length and ready to assemble, we have eliminated the need for measuring, cutting, and welding on site. Any of our RTS products can be fully assembled with nothing but a wrench. Rooftop Support Systems – engineering efficiency through quality and innovative products.



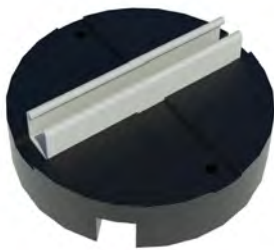
RTSPUC1

Uses:
Pipe/conduit/condensate line up to 6" Diameter.

Product Dimensions:
12" Diameter x 2.5" Thick.
1-5/8" channel included.

Pipe mount height:
+/- 3.75" above roof.

Weight:
10 lbs.



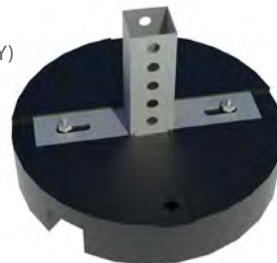
RTSPUCF11

Uses:
Small H-Stands and condenser supports. (NOT SOLD INDIVIDUALLY)

Product Dimensions:
12" Diameter x 2.5" Thick.
2" x 2" square receiver.

Minimum mount height:
+/- 12.5" above roof.

Weight:
10.5 lbs.



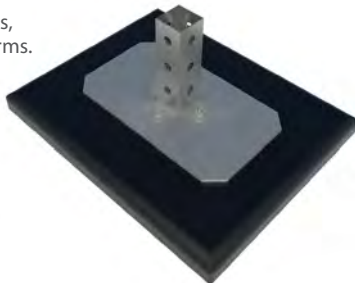
RTSF21

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms.

Product Dimensions:
14.5" x 17.5" x 2" Thick.
2" x 2" square receiver.

Minimum mount height:
+/- 12" above roof.

Weight:
25 lbs.



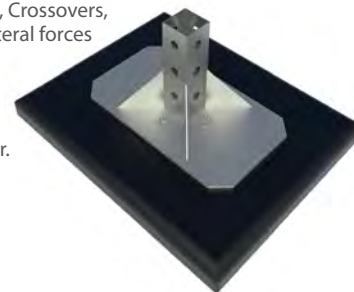
RTSF21G

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms where lateral forces are a concern.

Product Dimensions:
14.5" x 17.5" x 2" Thick.
Gusseted 2" x 2" square receiver.

Minimum mount height:
+/- 12" above roof.

Weight:
26 lbs.



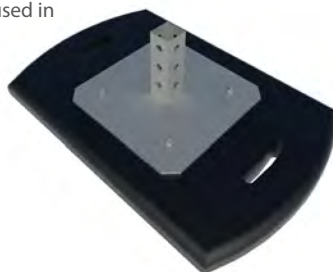
RTSF30

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms. Typically used in heavy duty applications.

Product Dimensions:
23.75" x 20.75" x 2" Thick.
2" x 2" square receiver.

Minimum mount height:
+/- 13.75" above roof.

Weight:
35 lbs.



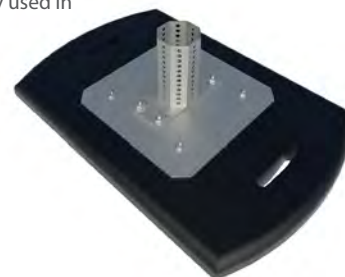
RTSF30F

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms. Typically used in heavy duty applications.

Product Dimensions:
23.75" x 20.75" x 2" Thick.
Receiver for 3" x 3" Framo 80 product.

Minimum mount height:
+/- 13.5" above roof.

Weight:
39 lbs.



RTSSPB20HG (Direct Mount)

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms where seismic or wind forces are present.

Product Dimensions:
6" x 6" x 1/4" Plate; 16"H. 2" x 2" square receiver.

Minimum mount height:
+/- 20.25" above structure.

Weight:
12 lbs.



RTSSPB80HG (Direct Mount)

Uses:
H-Stands, Condenser Supports, Crossovers, and Access Platforms where seismic or wind forces are present.

Product Dimensions:
6" x 6" x 1/4" Plate; 16"H. Receiver for 3" x 3" Framo product.

Minimum mount height:
+/- 23.25" above structure.

Weight:
14 lbs.

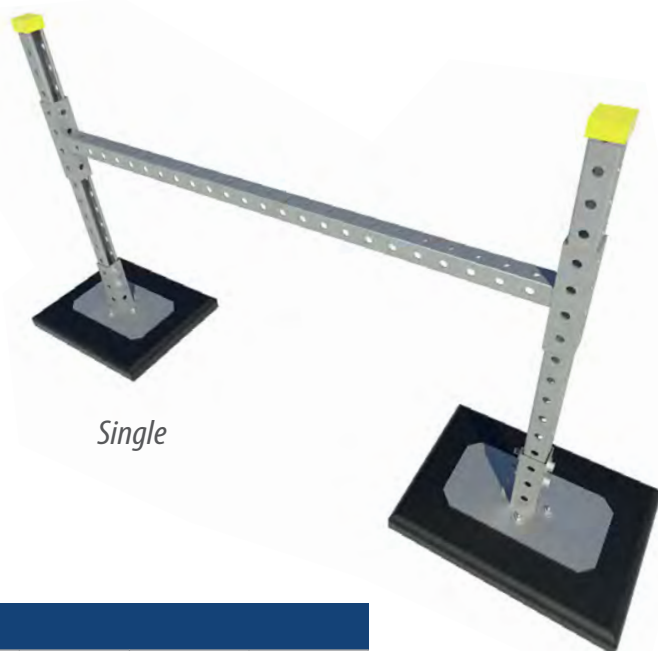




PUC Showcase:

The incredibly versatile RTSPUC can be used in a variety of applications:

- **Electrical Conduit/Condensate:** Three varieties of channel are available for varying heights of installation, and if vertical adjustability is required, $\frac{1}{2}$ " threaded rod is used to add up to 24" of height. Bridge supports can carry several pipes together. Pipe clamps are available upon request.
- **Gas and Mechanical Piping:** Rollers are added to conduit/condensate supports to accommodate pipe expansion and contraction.
- **Small Duct/Pipe:** H-Stand kits are available using the RTSPUCF11 base for smaller runs of square or spiral duct, or pipe that is mounted more than 12" above the roof.
- **Condenser Units:** Support kits are available for mini-split and small condensers.



		Upright Height								
		24"	36"	48"	60"	72"	84"	96"	108"	120"
Cross Brace Width	24"	RTSH2424	RTSH3624	RTSH4824	RTSH6024	RTSH7224	RTSH8424	RTSH9624	RTSH10824	RTSH12024
	30"	RTSH2430	RTSH3630	RTSH4830	RTSH6030	RTSH7230	RTSH8430	RTSH9630	RTSH10830	RTSH12030
	36"	RTSH2436	RTSH3636	RTSH4836	RTSH6036	RTSH7236	RTSH8436	RTSH9636	RTSH10836	RTSH12036
	42"	RTSH2442	RTSH3642	RTSH4842	RTSH6042	RTSH7242	RTSH8442	RTSH9642	RTSH10842	RTSH12042
	48"	RTSH2448	RTSH3648	RTSH4848	RTSH6048	RTSH7248	RTSH8448	RTSH9648	RTSH10848	RTSH12048
	54"	RTSH2454	RTSH3654	RTSH4854	RTSH6054	RTSH7254	RTSH8454	RTSH9654	RTSH10854	RTSH12054
	60"	RTSH2460	RTSH3660	RTSH4860	RTSH6060	RTSH7260	RTSH8460	RTSH9660	RTSH10860	RTSH12060
	66"	RTSH2466	RTSH3666	RTSH4866	RTSH6066	RTSH7266	RTSH8466	RTSH9666	RTSH10866	RTSH12066
	72"	RTSH2472	RTSH3672	RTSH4872	RTSH6072	RTSH7272	RTSH8472	RTSH9672	RTSH10872	RTSH12072
	78"	RTSH2478	RTSH3678	RTSH4878	RTSH6078	RTSH7278	RTSH8478	RTSH9678	RTSH10878	RTSH12078
	84"	RTSH2484	RTSH3684	RTSH4884	RTSH6084	RTSH7284	RTSH8484	RTSH9684	RTSH10884	RTSH12084
	90"	RTSH2490	RTSH3690	RTSH4890	RTSH6090	RTSH7290	RTSH8490	RTSH9690	RTSH10890	RTSH12090
	96"	RTSH2496	RTSH3696	RTSH4896	RTSH6096	RTSH7296	RTSH8496	RTSH9696	RTSH10896	RTSH12096

• For Double Cross Brace, add "-D"

• For Hot Dip Galvanized, add "-HG"

• For RTSSPB20HG direct mount bases, add "-P"

Example: RTSHXXXX-P-HG denotes an H-stand with direct mount bases in HDG finish

***** Part numbers listed include (2) RTSF21 rubber bases, (2) Uprights, and (1) Cross brace in pregalvanized finish *****

H-Stands:

Used for safely and securely mounting pipe(s), spiral or rectangular duct, and cable tray, RTS H-Stands are available in a variety of configurations for numerous applications and are designed to maximize jobsite efficiency. Non-penetrating rubber bases eliminate the need for roof work, and welded cross braces and precut framing reduce hardware while allowing for easy adjustability above 12". There is no prefabrication time required.

Direct mount bases are interchangeable in most configurations, and may address seismic or wind concerns with the approval of a licensed structural engineer. All H-Stands are compatible with 1-5/8" channel accessories. Pipe clamps, rollers, clevis assemblies, and pipe shields can be attached to meet the needs of any project. Available finishes: Pre-galvanized, Hot Dip Galvanized, and Stainless Steel.



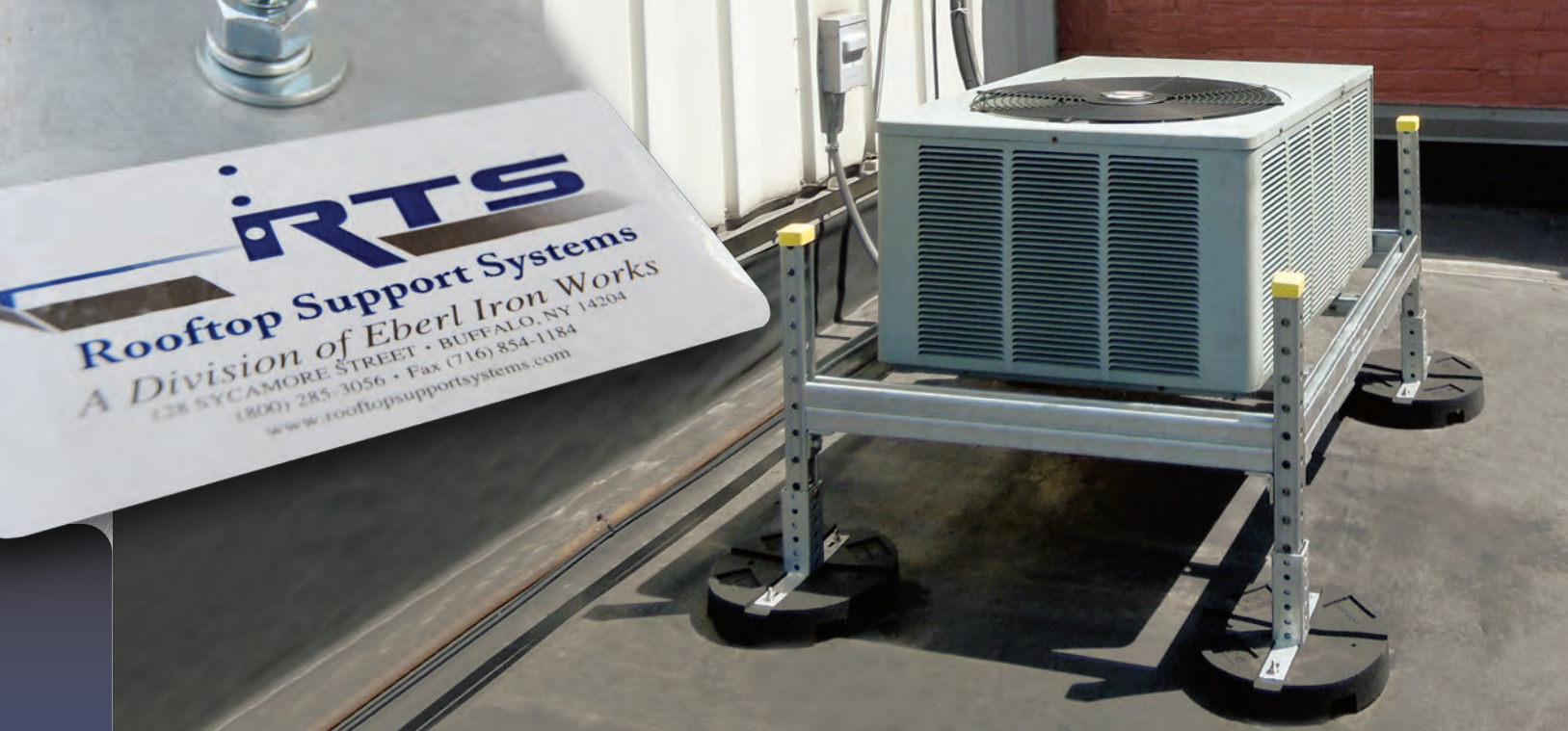
Custom Solutions



Accessories

- Clevis Hangers
- Rollers
- Pipe Shields
- Cable Tray
- Pipe Clamps





Rail Type



RTSEQ-R:

- Lightweight and portable, this modular product can hold up to five units on a single support, each weighing a maximum of 200 lbs., and measuring no more than 36”L and 24”W.
- The rail style design makes attaching the small mini-split and heat pump units very fast and easy.
- All variations utilize the RTSPUCF11 base.

Light Duty



RTSEQ-LDF:

- Designed for use with light duty traditional condenser units, as well as taller or stacked mini-split units, these supports can also hold up to five units on a single support.
- LDF products have a higher weight capacity of 250 lbs. per unit, and can accommodate up to 36” x 36” condenser units.
- Variations utilize either the RTSPUCF11 or the RTSF21 depending on project requirements.

Condenser Supports:

RTS offers three varieties of condenser supports to meet the needs of any application. The RTSEQ-R products are perfect for lightweight, side discharge mini-split units, while the RTSEQ-LDF and RTSEQ-MDF units are best suited to support larger, heavier condenser units. Standard sizes and configurations are listed below, and designs can be modified to fit any project's size and weight requirements. All material required is cut to length and shipped ready to bolt together. Assembly, height adjustment and leveling can be achieved with standard hand tools.

Available finishes: Pre-galvanized, Hot Dip Galvanized, and Stainless Steel.

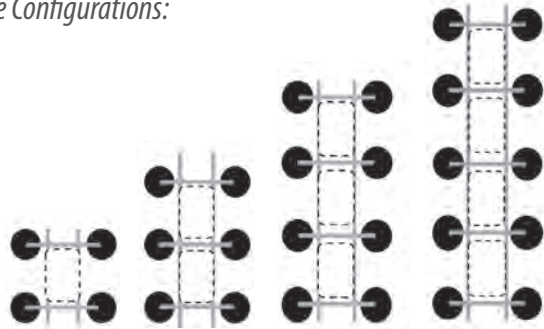
Medium Duty



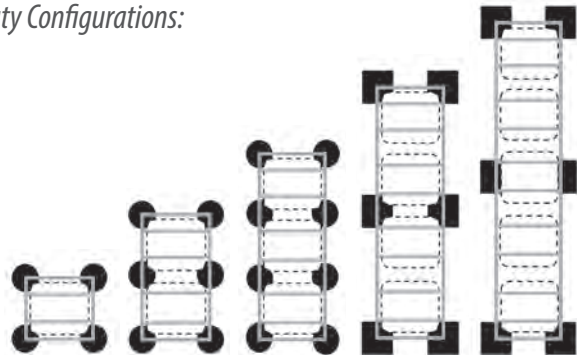
RTSEQ-MDF:

- For larger, heavy duty installations, the MDF series is designed for larger condenser units.
- Maximum unit size is 48" x 48", and maximum unit weight is 500 lbs.
- All variations utilize the RTSF21 base, and the seismic RTSSPB20HG can be substituted at no additional cost.

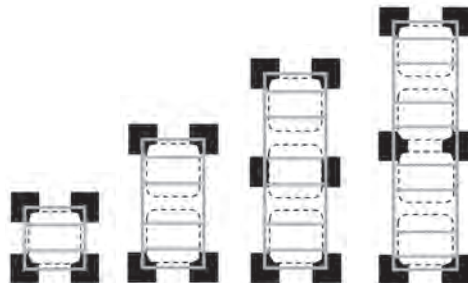
Rail Type Configurations:



Light Duty Configurations:



Medium Duty Configurations:





Crossover Stairs



- Crossover stairs utilize a 9" rise and 9-1/2" run stair configuration.
- All crossover stairs include safety railings.
- Custom solutions are available upon request.

S = Platform Span:

Determine the width of the obstacle to be traversed, and round up to the next available span:

- 35-1/4"
- 47"
- 58-3/4"
- 70-1/2"
- 82-1/4"
- 94"
- 105-3/4"
- 117-1/2"

H = Platform Clear Height:

Determine the height of the obstacle to be traversed, and round up to the next available height:

- 17-1/2"
- 25-1/2"
- 34-1/2"
- 43-1/2"
- 52-1/2"
- 61-1/2"
- 70-1/2"
- 79-1/2"

Design Standards

Platform Width = 36"

Stair Run = 9-1/2"

Stair Rise = +/- 9"

Grating = Anti-Slip
Diamond

Crossover Stairs and Ramps:

RTS Stair and Ramp systems employ innovative designs that save material and time on installation. Utilizing custom versions of our RTSF21 rubber bases and high strength steel framing, our crossover units will not harm roof surfaces and safely allow pedestrian traffic over roof obstacles. All standard 36" wide designs include 12 gauge anti-slip grating, and can withstand weights up to 550 lbs. Standard sizes are listed below, and custom solutions are available upon request.

All material is shipped cut to length, and ready to assemble with common hand tools.

Available finishes: Pre-galvanized, Hot Dip Galvanized, and Stainless Steel.

Crossover Ramps

S = Platform Span:

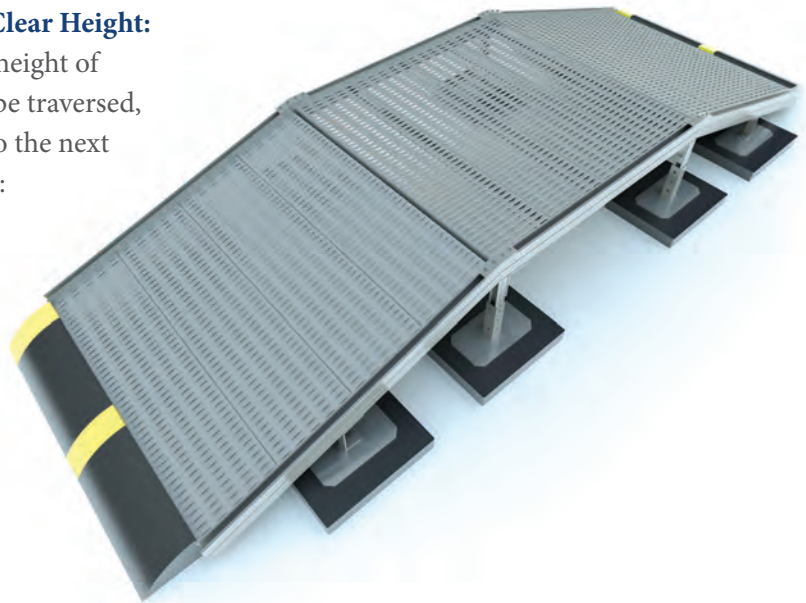
Determine the width of the obstacle to be traversed, and round up to the next available span:

- 35-1/4"
- 47"
- 58-3/4"
- 70-1/2"
- 82-1/4"
- 94"
- 105-3/4"
- 117-1/2"

H = Platform Clear Height:

Determine the height of the obstacle to be traversed, and round up to the next available height:

- 10-7/16"
- 13-9/16"
- 16-5/8"
- 19-3/4"
- 22-7/8"



Design Standards

Ramp Width = 36"

Ramp Angle = 15°

Grating = Anti-Slip Diamond

- Crossovers ramps utilize a 15° slope and include a rubber transition piece.
- Safety railings are available upon request.
- Custom solutions are available upon request.



Access Platform:

Similar to the RTS Crossover units, our Access Platforms utilize non-penetrating rubber bases, high strength steel framing, and 12 gauge anti-slip grating, and can support up to 550 lbs. The difference is that the bases are offset to allow the platform to rest against the unit that it is intended to service. There are two standard versions available that are modified to meet the needs of any project.

Available finishes: Pre-galvanized, Hot Dip Galvanized, and Stainless Steel.

RTSAP-End



- A simple, small platform, usually 36" x 36" that allows access to a single door or panel of a rooftop unit.

RTSAP-Side



- A larger platform that spans the entire side of a unit, granting access to all doors and panels on one side of a rooftop unit.



Custom Maintenance Platforms

Custom Maintenance Platforms:

Maintenance platforms are designed to fit project requirements. Constructed from a 3" x 3" semi-structural square tube, the system offers strength similar to dunnage, while still offering the convenience and time savings of a bolt together system. Similar to the stairs and access platforms, custom maintenance platforms utilize anti-slip grating and include safety railings.

All material ships cut to length, and can be assembled quickly with an impact wrench.

Available finishes:

- **3" x 3" Beam:** Hot Dip Galvanized.
- **Railings and Grating:** Pre-galvanized, Hot Dip Galvanized, and Stainless Steel.



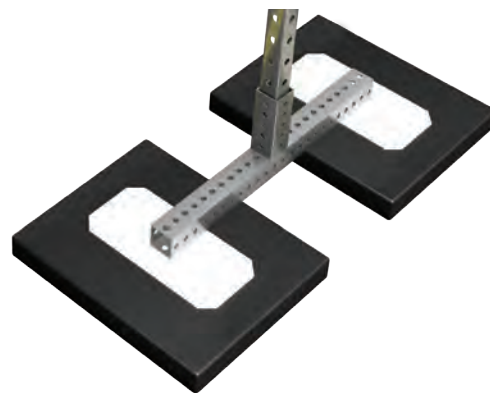


RTSSPBWIND



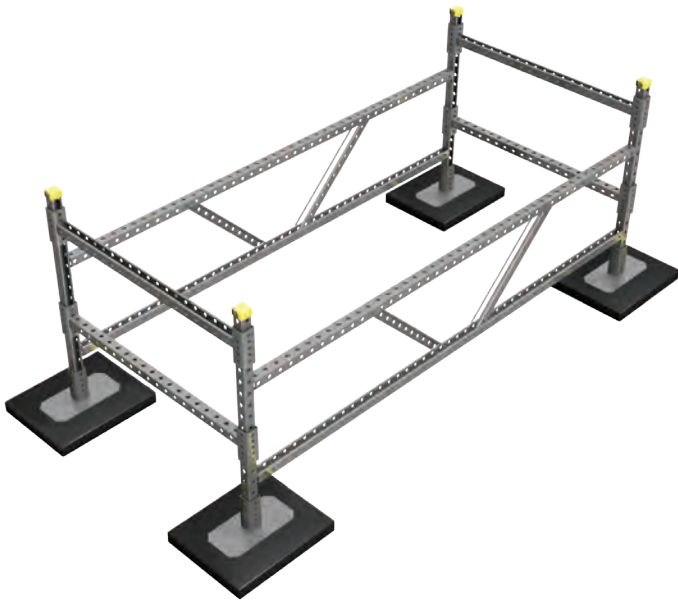
- This is a wind tie down base used to address wind concerns and minimize roof penetrations.
- Typically used with RTSBRAC.
- Constructed from solid steel and hot dip galvanized for superior weather resistance.
- Cable and anchors not included (Application specific consideration required).

RTSF42



- Using the same rubber component as the RTSF21, this base doubles the surface contact with the roof.
- Typically used for heavy duty applications, or where single axis forces are a concern.
- Constructed from 2" steel tube and hot dip galvanized for superior weather resistance.

RTSBRAC



- In areas where the RTSSPBWIND is used, this bracing is typically required to hold proper spacing between H-Stands.
- Material finish is matched to the installation.

HD H-Stands and HD Condenser Supports



- Utilizing the same 3" x 3" semi-structural beams, these supports are designed to fit project requirements that exceed the capability of our standard products.
- HD H-Stands can be used for pipe exceeding 12" diameter, very large duct, or duct that is installed 10 ft. or more above the roof.
- HD Condenser supports can be used for units exceeding 2,000 lbs., or if the support must span structural roof members and the deflection of the standard material exceeds manufacturer recommendation.

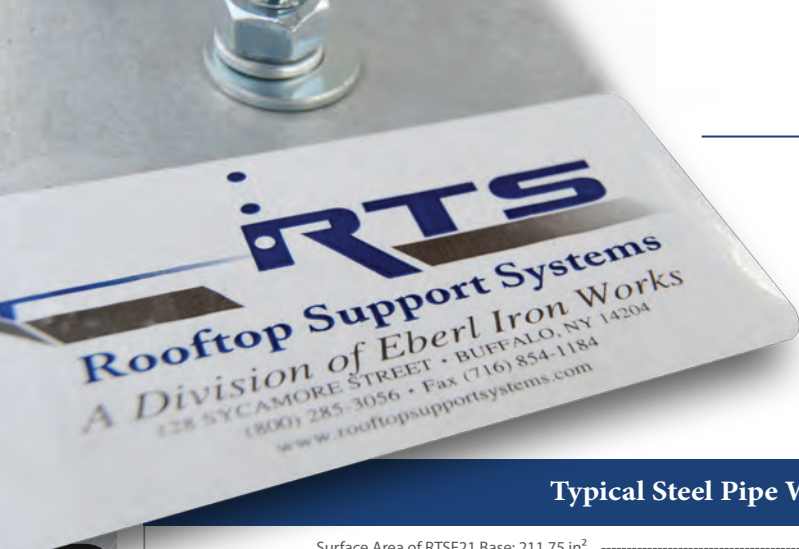


Project Showcase





1. Madison, WI
2. Arkport, NY
3. Rochester, NY
4. Buffalo, NY
5. Baltimore, MD
6. Buffalo, NY
7. Shakopee, MN



Typical Steel Pipe Weights for H-Stand Loading

Surface Area of RTSF21 Base: 211.75 in²Surface Area of RTSPUC Base: 71.50 in²

Pipe Size	Water Filled Pipe Weight (lbs/ft)	Total Weight at 6ft Spacing (lbs)	Total Weight at 8ft Spacing (lbs)	Single RTSPUC PSI		Double RTSF21 PSI	
				6ft	8ft	6ft	8ft
1"	2.06	12.36	16.48	0.348	0.405	0.194	0.216
2"	5.11	30.66	40.88	0.604	0.747	0.238	0.274
3"	10.78	64.68	86.24	1.079	1.381	0.318	0.381
4"	16.30	97.80	130.40	1.543	1.999	0.396	0.485
5"	23.20	139.20	185.60	2.122	2.771	0.494	0.615
6"	31.50	189.00	252.00	2.818	3.699	0.612	0.772
8"	50.10	300.60	400.80	*	*	0.875	1.123
10"	74.60	447.60	596.80	*	*	1.222	1.586

* Application not permitted

** ASTM A53-86 Schedule 40 pipe

*** PSI Calculation for a single pipe

**** Weights include that of an RTSPUC1 or a 75lb H-Stand

Typical Steel Duct Weights for H-Stand Loading

Surface Area of RTSF21 Base: 211.75 in²Surface Area of RTSPUC Base: 71.50 in²

Duct Size	Duct Weight/ft with 2" insulation	Total Weight at 6ft Spacing (lbs)	Total Weight at 8ft Spacing (lbs)	RTSPUC Base PSI		RTSF21 Base PSI	
				6ft	8ft	6ft	8ft
28" x 28"	28.80	172.80	230.40	1.558	1.961	0.585	0.721
30" x 30"	30.90	185.40	247.20	1.646	2.078	0.615	0.761
42" x 42"	43.20	259.20	345.60	*	*	0.789	0.993
54" x 54"	55.60	333.60	444.80	*	*	0.965	1.227
60" x 60"	61.80	370.80	494.40	*	*	1.053	1.345
84" x 84"	86.50	519.00	692.00	*	*	1.403	1.811
96" x 96"	98.80	592.80	790.40	*	*	1.577	2.043

* Application not permitted

** Weights for 16 ga. steel rectangular duct

*** PSI Calculation for a single duct

**** Weights include that of an H-Stand using both base types (RTSPUCF11 or RTSF21)



Cancellation: Cancellation of orders will be accepted only with the understanding that we will be reimbursed for expenses incurred as a result of the cancellation. Orders for special or non-catalogued items are not subject to cancellation after production is started under any circumstances.

Warranties: We guarantee to repair or replace at our option any products we find in our sole discretion to be structurally defective in material or workmanship for a period of five (5) years on Pregalvanized items, and ten (10) years on Hot Dip Galvanized items from date of delivery to customer. Such warranty specifically excludes repair of non-structural rust damage to products. Our obligation with respect to material found by us to be defective shall be limited to replacement or repair and in no event shall we be liable for transportation to or from our factory, installation, adjustments or any expenses or damages arising in connection with such material. Eberl Iron Works, Inc. Rooftop Support Systems division accepts no liability for products not designed and laid out by RTS or for any alteration or modification to the system not authorized by RTS. This warranty shall not cover defects caused by outside contractors/installers of the RTS System.

THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO OTHER WARRANTIES THAT EXTEND BEYOND THIS EXPRESS WARRANTY.

Returned Material: Permission to return any standard merchandise must be obtained in writing within 90 days of shipment. Material credit or refund is issued pending a material inspection. Damaged or altered material is not eligible for a refund. Return freight is to be paid for by the customer, and a 15% restocking fee will apply to all returns. Returns will only be considered for standard items. Any special or non-catalogued items are not subject to return for credit under any circumstances.

Freight: All prices are F.O.B. our dock or point of shipment, unless otherwise stated. Job site delivery will incur additional charges of \$150.00. Freight arrangements are the responsibility of the customer for any international shipment.

Catalog Weight, Dimensions, and Design Loads: Catalog weights and dimensions are careful estimates but not guaranteed. Load designs are based on tests as submitted or by calculations of static load applications. In most cases, the load is stated with applicable factor of safety.

Delivery: The estimated shipping date is based on production time required to process the order commencing with the date the order is received by us. Should any revisions be made to the order, the original shipping date is void.

Claims: Claims for defective material or shortages in shipment must be made in writing within 30 days of material arrival. If material is delivered short, damaged or missing pieces due to carrier mishandling, receiver must make note on the delivery receipt in order to receive replacement material.

Errors: Should an error be made filling an order, notify us promptly and we will immediately attempt to adjust the matter without expense to purchaser.

Freight: Delivery of goods to a carrier at our plant or other shipping point shall constitute delivery to purchaser regardless of freight payment. All risk of loss or damage in transit shall pass to purchaser at that time. Purchaser shall make claims for loss or damage to goods in transit against the carrier. We will assist purchaser in securing satisfactory adjustment of such claims, however; if material is delivered short, damaged or missing pieces due to carrier mishandling, receiver must make a note on the delivery receipt in order to receive replacement material.

Limitation of Liability: WE WILL NOT BE LIABLE TO BUYER OR ANY THIRD PARTY FOR ANY SPECIAL, CONTINGENT, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, TORT, STRICT LIABILITY, NEGLIGENCE OR OTHERWISE. Our liability with respect to a claim for any damages arising out of or connected with the sale, purchase, non-delivery, use or performance of any product will in no event exceed the price paid for the product.

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Eberl Iron Works, Inc.

Eberl Iron Works, Inc. (EIW) was founded in 1923 by brothers George and Frank Eberl. EIW started as a small welding shop which fabricated wrought iron railings, exterior fire escapes and miscellaneous iron.

Eberl Iron Works has five unique and distinct divisions that meet our customers' most challenging needs.

Rooftop Support Systems (RTS), Traffic Safety Products (TSP), Unistrut Buffalo Supports (UBS), Metal Fabrication Services (MFS) and Systems Installation & Design (SID).

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