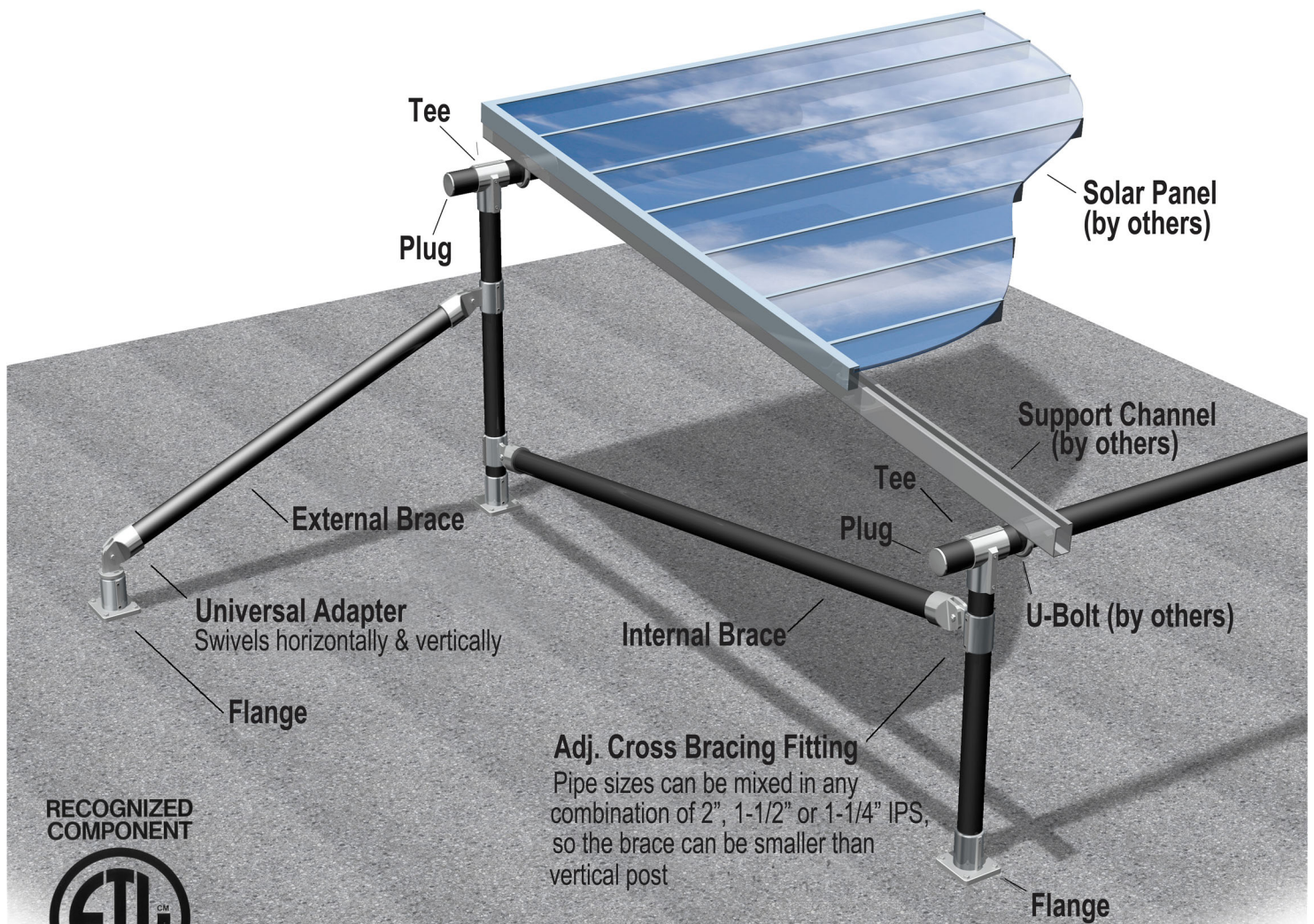




**SPEED-RAIL® FITTINGS FOR SOLAR PIPE RACKS**  
**UL 2703 CERTIFIED**

**Typical Solar Panel Mounting System**

Available in 1 1/4", 1 1/2", 2" IPS Pipe Size



RECOGNIZED COMPONENT



**Intertek**

5006568  
Conforms to UL STD 2703

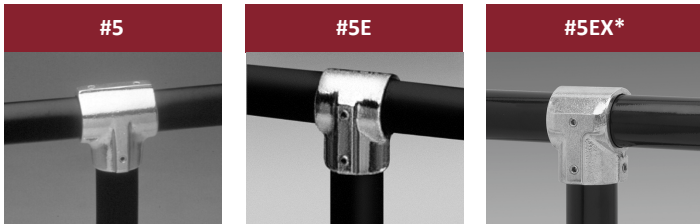
**Adj. Cross Bracing Fitting**

Pipe sizes can be mixed in any combination of 2", 1-1/2" or 1-1/4" IPS, so the brace can be smaller than vertical post

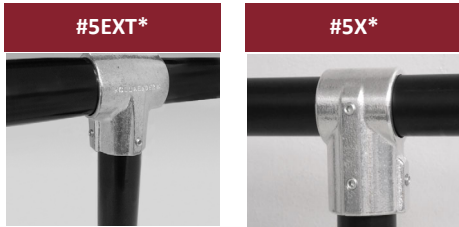


ALL INSTRUCTIONS OUTLINED IN THIS MANUAL ARE EFFECTIVE FEBRUARY 2026 IN ACCORDANCE WITH INTERTEK

**TEE FITTINGS**



#5 1-1/4", 1-1/2", 2"    #5E 1-1/4", 1-1/2"    #5EX\* 1-1/2"



#5EXT\* 1-1/2"    #5X\* 2"

**ADJUSTABLE/CROSS BRACING FITTINGS**



#17 1-1/4", 1-1/2", 2"    #17E 1-1/4", 1-1/2"    #17X\* 2"

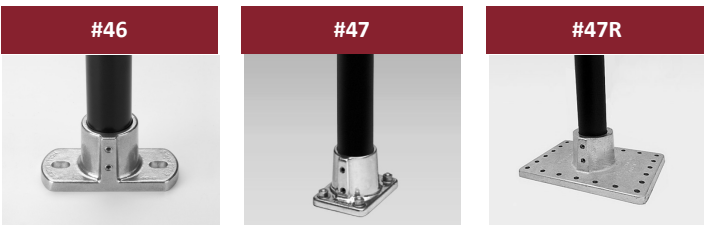


#19 1-1/4", 1-1/2", 2"    #19E 1-1/2"

**MOUNTING FLANGES**



#45 1-1/4", 1-1/2"    #45CE 1-1/4", 1-1/2", 2", 3", 4"    #45SBC 1-1/2"

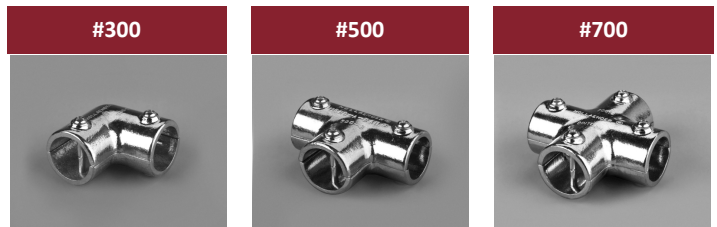


#46 1-1/4", 1-1/2"    #47 1-1/4", 1-1/2", 2"    #47R 1-1/2"

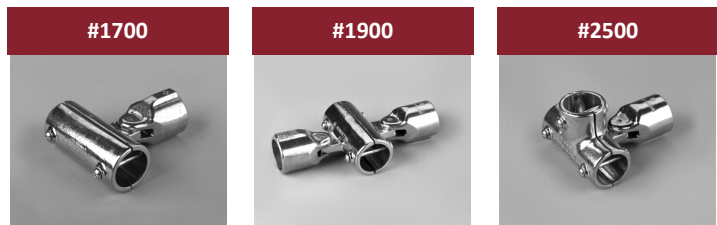


#48 1-1/4", 1-1/2", 2"    #48BC 1-1/2"    #48H 2"

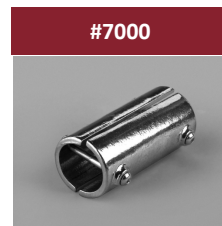
**MEND-A-RAIL®**



#300 1-1/2"    #500 1-1/2"    #700 1-1/2"



#1700 1-1/2"    #1900 1-1/2"    #2500 1-1/2"



#7000 1-1/2"



**PLUGS**



#62 Sch.40/65 Sch.80 1-1/4", 1-1/2", 2"

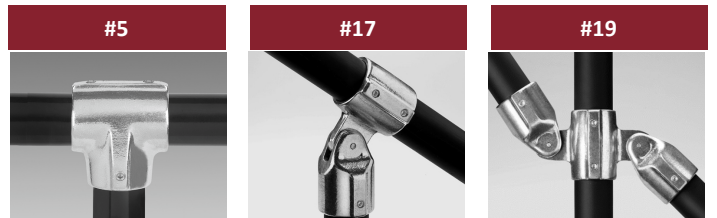


\* Fitting has Extra Set Screw

Photos show a black colored pipe, this is strictly for promotional purposes.

Both in testing and in practice, customers should use A53 Sch. 40 galvanized pipe or 6061-T6 Sch. 40 aluminum pipe.

**REDUCING FITTINGS**



#5 1-1/2" to 2"    #17 2" to 1-1/2", 1-1/2" to 1-1/4", 2" to 1-1/4"    #19 2" to 1-1/4"

- ◆ Speed-Rail® fittings achieve bonding with the pipe when the set screws are adequately tightened, and penetrate the surface of the steel or aluminum pipe.
- ◆ Speed-Rail® fittings have been evaluated to UL 2703 grounding and bonding for single use only.
- ◆ Both in testing and in practice, customers should use A53 Sch. 40 galvanized pipe or 6061-T6 Sch. 40 aluminum pipe.

**SET SCREWS SHOULD BE TIGHTENED TO THE TORQUE VALUES LISTED IN THE TABLE BELOW.**

Pullout Capacity of Fitting Set Screws When Properly Torqued							
<b>Solar Pipe Rack Fittings</b>							
Aluminum Alloy 6061-T6 Sch. 40 Wall and A53 Sch. 40 Steel Pipe							
Pipe must be completely inserted into the barrel of the fitting and secured with recommended torque for proper pullout performance.							
Revised 2/2026							
Fitting Size	Resist Pullout No. Set Screws	Set Screw Orientation	Typical Fitting	AL		STL	
				Torque Ft. Lbs.^	Capacity*	Torque Ft. Lbs.^	Capacity*
4" IPS	2	IN LINE	45CE-13	N/A	N/A	20	1,600
3" IPS	2	IN LINE	45CE-11	N/A	N/A	20	1,600
2" IPS	1		Bracing Fitting: 17-9 Tee: 5-9	14	1,120	17	1,360
	2	IN LINE	Bracing Fittings: 19-9, 17X-9 Flanges: 47-9, 45CE-9, 48-9, 48H-9	14	1,550	17	1,705
	2	AT 90 DEGREES	Tee: 5X-9	14	Est. 1,860	17	2,080
1-1/2" IPS	1		Tees: 5-8, 5E-8, 5-89 Bracing Fittings: 17-8, 17-87, 17-98, 1700-8, 19-98, 1900-8, 2500-8	14	700	17	1,315
	2	IN LINE	Flanges: 45-8, 45CE-8, 45SBC-8, 46-8, 47-8, 47R-8, 48-8, 48BC-8	14	1,405	17	1,505
	2	AT 90 DEGREES	Tees: 5EX-8, 5EXC-8, 5EXT-8	14	Est. 1,700	17	2,080
1-1/4" IPS	1		Tees: 5-7, 5E-7 Bracing Fitting: 17-7, 17E-7, 17-97	14	700	17	1,265
	2	IN LINE	Flanges: 45-7, 45CE-7, 46-7, 47-7, 48-7 Bracing Fitting: 19-97	14	1,405	17	1,500
Shear on 303 SS Adj. Pin			Factory Installed Pin	N/A	N/A	N/A	1,960
1/4" TEK screw inserted through (1) wall of 1-1/2" pipe			Set Screw w/Tek Screw	14	2,000	17	3,500
1/4" TEK screw inserted through (1) wall of 2" pipe			Set Screw w/Tek Screw	14	2,080	17	3,500

**All pipe sizes recommended for added structural integrity.**

\*Capacity is based upon a 2:1 factor of safety.

This chart is to be used as a guideline for general design. If your system is subject to dramatic loads, we suggest testing parts with specific pipe used for project. Significant variations in pipe strength and hardness can have substantial effect on performance. Any pipe or tube other than A53 Sch. 40 steel pipe should get engineering approval.

^ - Torque values applied to fittings not to exceed 30% of value specified.

**MAINTENANCE**

- It is recommended that set screws be checked periodically to ensure that proper torque values are maintained.
- Any components showing signs of damage that compromise safety shall be replaced immediately.

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