

Beta Clamp Technical Data



BETA CLAMPS TORQUE AND MATERIAL PROPERTIES

TIGHTENING TORQUE								
Clamp	Group	Bolt Size	Aluminum Cushion		Polypropylene Cushion		Polyamide Cushion	
			Lbf	Nm	Lbf	Nm	Lbf	Nm
BETA STANDARD	S1 - S7	1/4"-20	7	10	6	8	6	8
BETA HEAVY	H3, H4	3/8"-16	22	30	9	12	15	20
	H5	3/8"-16	26	35	11	15	18	25
	H6	1/2"-13	41	55	29	30	30	40
	H7	5/8"-11	89	120	33	45	41	55
BETA TWIN	T1	1/4"-20	-	-	4	6	4	6
	T2 - T5	5/16"-18	-	-	9	12	9	12

The outlined particulars are approximate values and are only valid as references, which are not binding, also with regard to possible protection of third parties, and they do not exempt you from your own examination of suitability of the products delivered by us. Therefore, these values can only be used in a limited sense for construction purposes. The application of the products is carried out outside our control possibilities and, therefore, is exclusively subject to your own area of responsibility. If, however, liability should be possible, it would be limited for all damages to the value of the goods supplied by us and in use by you. It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

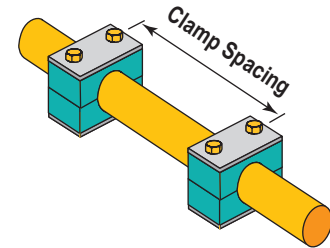
BETA CLAMP MATERIAL PROPERTIES		
Material Properties		Polypropylene (PP)
Density	-	0.906 g/cm3
Tensile strength	DIN 53454	25-35 N/mm2
Flexure stress limit	DIN 53452	36N N/mm2
Compressive strength	DIN 53454	90 N/mm2
Impact strength	DIN 53453	No break
Thermo Properties		Polypropylene (PP)
Max. temp. resistance		-30 to 90°C
Thermal conductivity		15 x 10 ⁻⁵ /°C
Linear expansion coeff.		0.22 W/[mk]
Electrical Properties		Polypropylene (PP)
Specific volume	DIN 53482	1016 ohm x cm
Chemical Properties		Polypropylene (PP)
Consistent for weak acids, solvents, mineral oils and seawater.		

DRILL SIZES FOR NPT PIPE TAPS		
Tap Size (In.)	Threads/In.	Drill Dia. (In.)
1/8	27	R
1/4	18	7/16
3/8	18	37/64
1/2	14	23/32
3/4	14	59/64
1	11 1/2	1 5/32
1 1/4	11 1/2	1 1/2
1 1/2	11 1/2	1 47/64
2	11 1/2	2 7/32
2 1/2	8	2 5/8
3	8	3 1/4
3 1/2	8	3 3/4
4	8	4 1/4

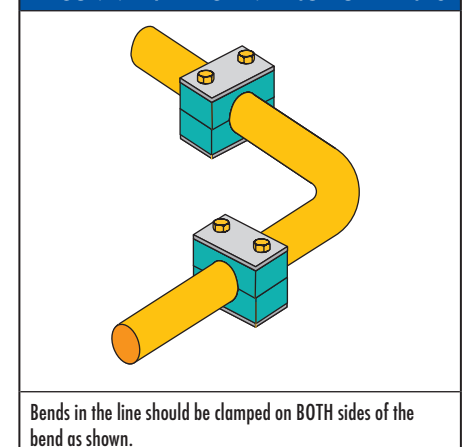
TAP & DRILL SIZES (Unified National Coarse)		
Tap Size (In.)	Threads/In.	Drill Size (In.)
1/4	20	7
5/16	18	F
3/8	16	5/16
7/16	14	U
1/2	13	27/64
9/16	12	37/64
5/8	11	17/32
3/4	10	21/32
7/8	9	49/64
1	8	7/8
1 1/8	7	63/64
1 1/4	7	1 1/64
1 3/8	6	1 7/32
1 1/2	6	1 11/32
1 3/4	5	1 9/16
2	4 1/2	1 25/32

RECOMMENDED PIPE CLAMP SPACING

RECOMMENDED PIPE CLAMP SPACING			
Pipe O.D.		Spacing	
in	mm	ft - in.	m
0.24" - 0.5"	6 - 12.7	3' - 3"	1.0
0.5" - 0.87"	12.7 - 22	3' - 11"	1.2
0.87" - 1.26"	22 - 32	4' - 11"	1.5
1.26" - 1.5"	32 - 38	6' - 7"	2.0
1.5" - 2.24"	38 - 57	8' - 10"	2.7
2.24" - 2.95"	57 - 75	9' - 10"	3.0
2.95" - 3"	75 - 76.1	11' - 6"	3.5
3" - 3.5"	76.1 - 88.9	12' - 2"	3.7
3.5" - 4"	88.9 - 102	13' - 1"	4.0
4" - 4.5"	102 - 114	14' - 9"	4.5
4.5" - 6.6"	114 - 168	16' - 5"	5.0
6.6" - 8.6"	168 - 219	19' - 8"	6.0
8.6" - 12.8"	219 - 324	21' - 12"	6.7
12.8" - 14"	324 - 356	22' - 12"	7.0
14" - 16"	356 - 406	24' - 7"	7.5
16" - 16.5"	406 - 419	26' - 11"	8.2
16.5" - 20"	419 - 508	27' - 11"	8.5
20" - 20.5"	508 - 521	29' - 6"	9.0
20.5" - 22"	521 - 558	32' - 10"	10.0
22" - 31.5"	558 - 800	41' - 0"	12.5



RECOMMENDED CLAMPING FOR BENDS

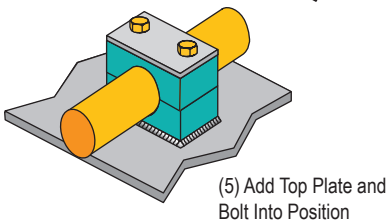
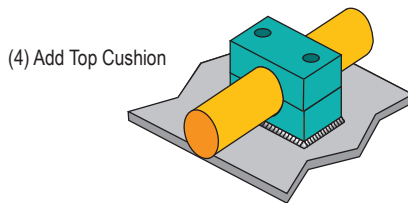
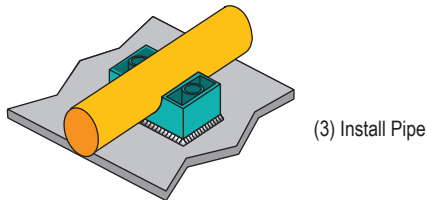
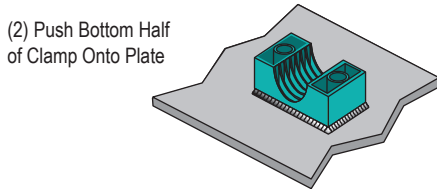
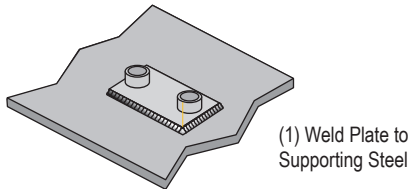


INSTALLATION ON WELD PLATES

ZSi-Foster weld plates are available for the following Series:

- Standard Series
- Heavy Series
- Twin Series
- Beta Adapters

For best alignment of ZSi-Foster clamps we recommend that you mark their location before welding.



Installation On Weld Plates

- Weld metal welding plates to a weight adjusted base.
- Clip lower half of clamp on to welding plate and insert tube; then add second clamp-half, cover plate, and tighten with screws provided.
- DO NOT weld with plastic clamp in position.
- After assembly the two clamp halves MUST NOT come into contact with each other.

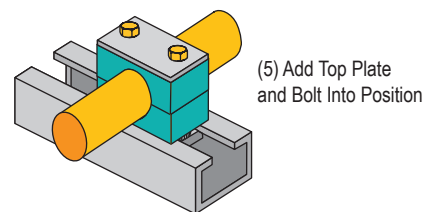
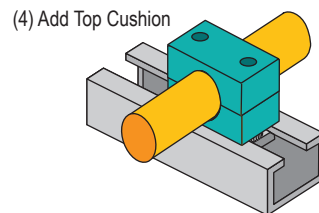
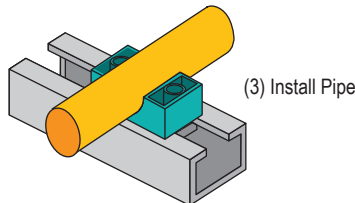
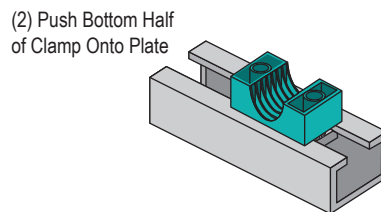
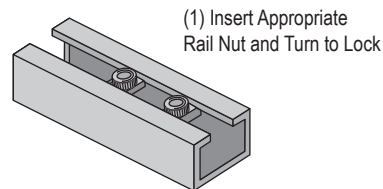
INSTALLATION ON MOUNTING RAILS

ZSi-Foster mounting rails can be used with the following Series:

- Standard Series
- Heavy Series (Group H3 to H6)
- Twin Series
- Beta Adapters

ZSi-Foster mounting rails are available in two different height sizes and are either welded or bolted to the supporting construction.

For Standard Series and Twin Series insert hexagon rail nut and turn to lock. For Heavy Series slide in rail nut.

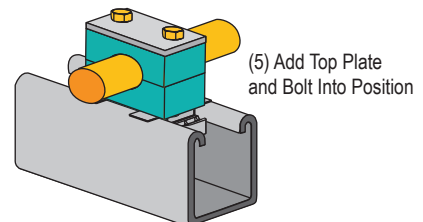
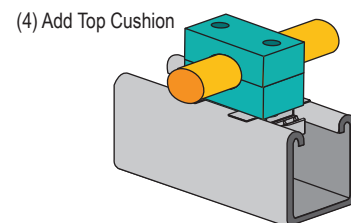
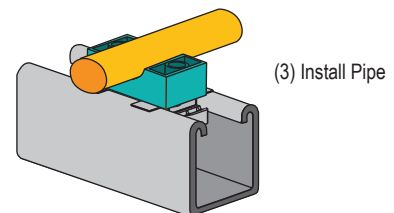
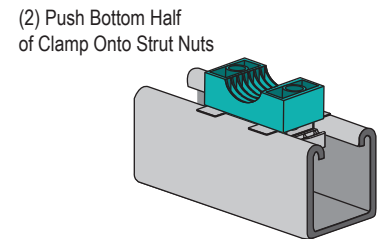
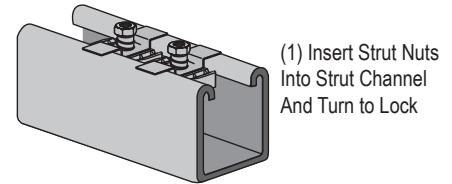


NOTE: The rail nut will slide within the rail so clamp units can be adjusted before being firmly bolted.

INSTALLATION ON CHANNEL

The ZSA Nuts can be used with any clamp using a 1/4-20 mounting bolt. This includes:

- Standard Series
- Twin Series (T1 Only)
- Beta Rubber Inserts



NOTE: The ZSA Nut will slide within the Channel so clamp units can be adjusted before being firmly bolted.

Beta Clamp Installation



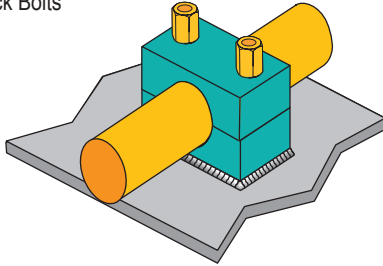
MULTI-LEVEL ASSEMBLY

ZSi-Foster multi-level pipe clamps permit easy stacking of several tubes or pipes of the same group. The clamps are connected by stacking bolts.

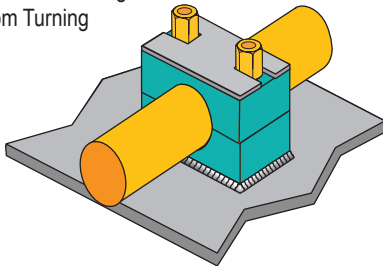
Safety plates are inserted between the clamps to prevent the stacking bolts from turning.

The example below shows a stacking clamp added to a welded clamp, however, ZSi-Foster stacking assemblies can be fitted to weld plates, rails, or strut in the same manner.

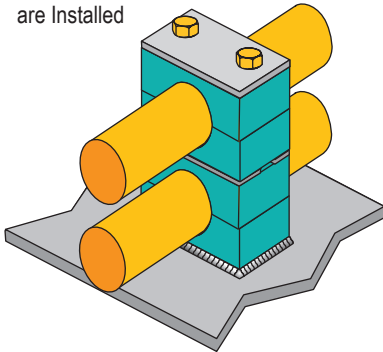
(1) After the Top Cushion is Added, Secure it with the Stack Bolts



(2) Add Safety Plate to Prevent Stacking Bolts from Turning



(3) Assemble Another Clamp Onto the Stacking Bolt in Same Manner as Single Clamps are Installed



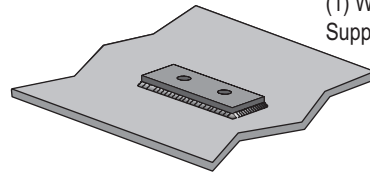
Stacking Assembly

- Weld on welding plate with a fixing bracket.
- Wedge on lower clamp-half, insert tube, add upper clamp-half and tighten with fixing screws.
- Apply a locking plate to upper half of the clamp to prevent fixing screw from twisting.
- Mount the second tube clamp in exactly the same way.

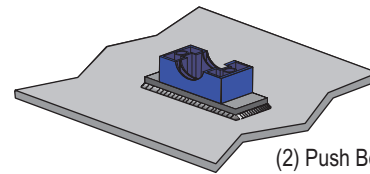
INSTALLATION OF BETA ADAPTER

Beta Adapters are installed in much the same manner as Beta Clamps. The weld plate is welded onto existing structure and the Beta cushion and adapter is assembled onto it.

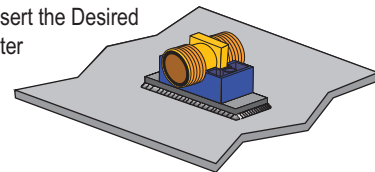
(1) Weld Plate to Supporting Steel



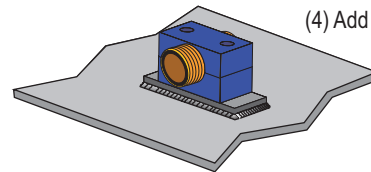
(2) Push Bottom Half of Clamp Onto Plate



(3) Insert the Desired Adapter



(4) Add Top Cushion



(5) Add Top Plate and Bolt into Position

