

Materials, Material Properties, Technical Data

Clamp Body Materials				
Clamp Body Material Properties	Copolymeric Polypropylene PP Colour: green	Polyamide PA Colour: black	Aluminum AISI 12	Santoprene SA Colour: black
Mechanical Properties				
Flexural Deflection	DIN 53 452* 36 N/mm ²	130 . . . 200 N/mm ²		
Impact Resistance	DIN 53 453* no failure	60 KJ/m ²		
Compressive Strength	DIN 53 454* 90 N/mm ²	120 N/mm ²	60 – 80 HB 5/250	Hardness: 73 – 87° Shore A
Modulus of Elasticity	DIN 53 452* 1150 N/mm ²	3000 N/mm ²	70.000 N/mm ²	3,5 – 6,9 N/mm ²
Tensile Stress	DIN 53 455* 28 N/mm ²	140 N/mm ²	220 – 300 N/mm ²	8,5 – 15,5 N/mm ²
Thermal Properties				
Max. Temperature Resistance	– 30 . . . +90° C	– 40 . . . +120° C	up to 300° C	– 40 . . . +120° C
Chemical Properties				
Weak acids, solvents	cond. consistent	cond. consistent	cond. consistent	consistent
Benzine, mineral oils	cond. consistent	consistent	consistent	cond. consistent
Alcohol, other oils, seawater	consistent	consistent	consistent	consistent
* DIN specifications refer to plastics only				
Other thermoplastics and materials for clamp bodies on request.				

Metal Parts
<p>– All metal parts made of steel St 37, no surface finishing, unless otherwise stated (see order code – components)</p> <p>– Surface finishing In addition to the standard surface finishings stated alternative finishings are available on request (e. g. Fe/Zn 12 C)</p> <p>– Stainless Steel Metal Parts All metal parts are also available ex stock in two different stainless steel qualities: – Noncorrodible Stainless Steel A2 - 1.4301/1.4305 (AISI 304) – Noncorrodible and acid-proof Stainless Steel A4 - 1.4401/1.4571 (AISI 316/316Ti)</p> <p>– Threads All threaded parts are available with UNC-threads on request. (see thread-chart page 50)</p>

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.

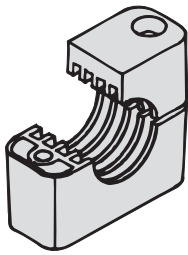
If, however, liability should be possible, it would be limited for all damages to the value of the goods supplied by us and in use by you.

It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

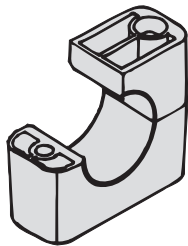
**Because of technical advances, dimensions subject to change without notification.
This catalog supercedes all previous catalogues.**

Design of Clamp Bodies

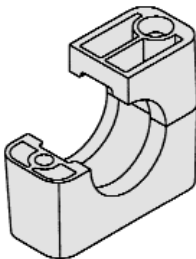
STANDARD-SERIES



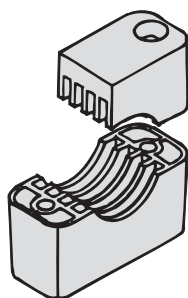
Standard design – profiled inside –



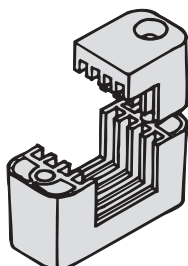
H-design – smooth inside –
(recommended for hoses)



RI-design
for rubber inserts

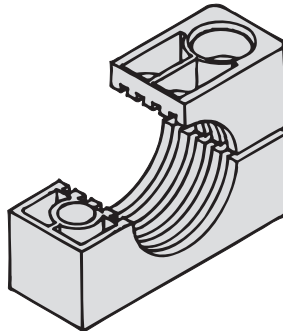


Oval-design

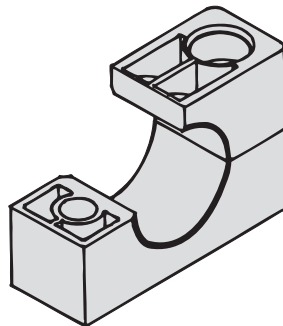


Rectangular-design

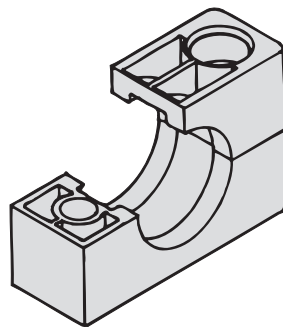
HEAVY-SERIES



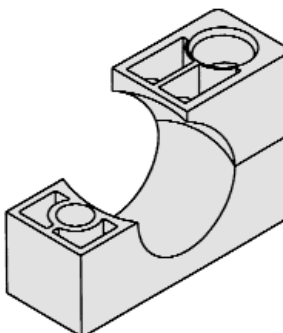
Standard design – profiled inside –



H-design – smooth inside –
(recommended for hoses)

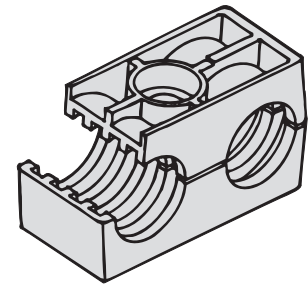


RI-design
for rubber inserts

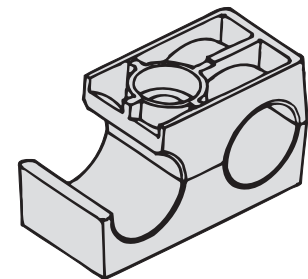


WAG-design
for ball inserts

TWIN-SERIES



Standard design – profiled inside –



H-design – smooth inside –
(recommended for hoses)

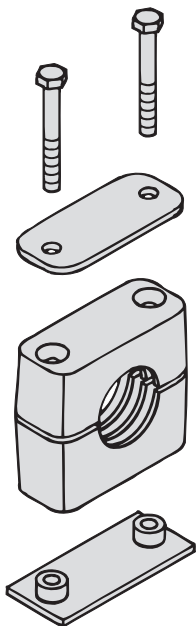
Installation Information

Installation on Weld Plates

STAUFF weld plates are available for the following Series:

- Standard-Series
- Heavy-Series
- Twin-Series
- Special Clamps

For best alignment of STAUFF clamps it is recommended to mark their location first. Weld plates, push on bottom half of clamp, install pipe, mount top half of clamp and cover plate and bolt unit together. In order to avoid damage to the clamp bodies it is recommended to mount the plastic clamp bodies after having welded the weld plates.

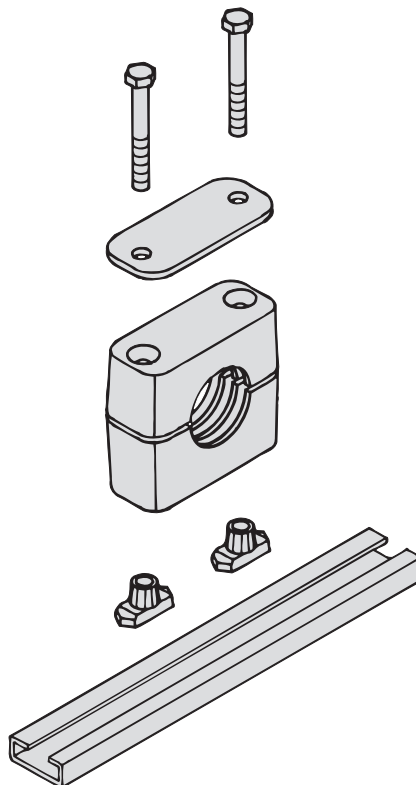


Installation on Mounting Rails

STAUFF mounting rails can be used with the following Series:

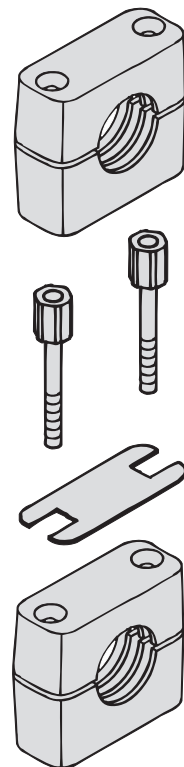
- Standard-Series
- Heavy-Series (Group 3S-6S)
- Twin-Series
- Special Clamps

STAUFF mounting rails are available in four different height sizes. The rails are either welded or bolted to the supporting construction. For Standard- and Twin-Series insert hexagon rail nut and turn to lock. For Heavy-Series slide in rail nut. Push on bottom half of clamp, install pipe, mount top half of clamp and cover plate and bolt unit together. Clamp units can be adjusted before being firmly bolted.

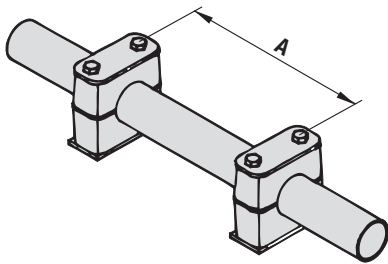


Multi-Level Assembly

STAUFF multi-level pipe clamps permit easy stacking of several tubes or pipes of the same group. (Twin-Clamps group 2 - 5 allow stacking of different group sizes.) The clamps are connected by stacking bolts (AF). Safety plates (SIG/SIP/SI) inserted between the clamps prevent stacking bolts from turning. STAUFF stacking assembly can be fitted to weld plates or to rails.



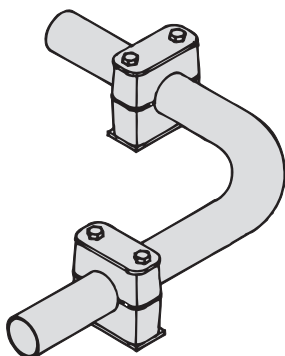
Spacings for Clamps



The recommended spacings for clamps stated below are standard values and are valid for static loads.

Pipe-O.D. [mm]	Spacing A [m]
6,0 – 12,7	1,0
12,7 – 22,0	1,2
22,0 – 32,0	1,5
32,0 – 38,0	2,0
38,0 – 57,0	2,7
57,0 – 75,0	3,0
75,0 – 76,1	3,5
76,1 – 88,9	3,7
88,9 – 102,0	4,0
102,0 – 114,0	4,5
114,0 – 168,0	5,0
168,0 – 219,0	6,0
219,0 – 324,0	6,7
324,0 – 356,0	7,0
356,0 – 406,0	7,5
406,0 – 419,0	8,2
419,0 – 508,0	8,5
508,0 – 521,0	9,0
521,0 – 558,0	10,0
558,0 – 800,0	12,5

Pipe Bend Installation



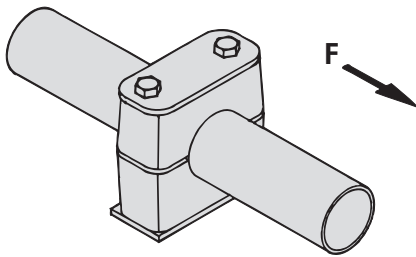
Pipe bends should be supported by STAUFF clamps as near to the bends as possible. Furthermore, it is recommended to design these clamps as fixed point clamps.

Thread Chart

Metric Thread / UNC Threads

STANDARD-SERIES		
STAUFF Group	Metric Thread	UNC Thread
1	M 6	1/4 – 20 UNC
1A		
2		
3		
4		
5		
6		
7		
8		
HEAVY-SERIES		
STAUFF Group	Metric Thread	UNC Thread
3S	M 10	3/8 – 16 UNC
4S		
5S		
6S	M 12	7/16 – 14 UNC
7S	M 16	5/8 – 11 UNC
8S	M 20	3/4 – 10 UNC
9S	M 24	7/8 – 9 UNC
10S	M 30	1 1/8 – 7 UNC
11S	M 30	1 1/4 – 7 UNC
12S		
TWIN-SERIES		
STAUFF Group	Metric Thread	UNC Thread
1D	M 6	1/4 – 20 UNC
2D	M 8	5/16 – 18 UNC
3D		
4D		
5D		

Tightening Torques And Maximum Loads In Pipe Direction



All tightening torques and maximum loads in pipe direction refer to clamps with cover plates and hexagon head bolts acc. to DIN 931/933.

The max. load in pipe direction (acc. to DIN 3015, part 10) is an average value, determined by three tests at 23°C with a steel pipe acc. to DIN 2448, St 37 – rolled surface – taking static friction into consideration.

Sliding starts when the shown values (**F**) are reached.

STANDARD-SERIES (acc. to DIN 3015, part 1)

STAUFF Group	Hexagon Head Bolt DIN 931/933	Polypropylene		Polyamide		Aluminum	
		Tightening torque [Nm]	Max. load in pipe direction F [kN]	Tightening torque [Nm]	Max. load in pipe direction F [kN]	Tightening torque [Nm]	Max. load in pipe direction F [kN]
1	M 6	8	0,6	10	0,6	12	3,5
1A		8	1,1	10	0,7	12	4,2
2		8	1,3	10	0,8	12	4,3
3		8	1,4	10	1,6	12	4,9
4		8	1,5	10	1,7	12	5,0
5		8	1,9	10	2,0	12	7,3
6		8	2,0	10	2,5	12	8,9

HEAVY-SERIES (acc. to DIN 3015, part 2)

STAUFF Group	Hexagon Head Bolt DIN 931/933	Polypropylene		Polyamide		Aluminum	
		Tightening torque [Nm]	Max. load in pipe direction F [kN]	Tightening torque [Nm]	Max. load in pipe direction F [kN]	Tightening torque [Nm]	Max. load in pipe direction F [kN]
3S	M 10	12	1,6	20	4,2	30	12,1
4S		12	2,9	20	4,5	30	15,1
5S		15	3,3	25	5,1	35	15,5
6S	M 12	30	8,2	40	9,3	55	29,4
7S	M 16	45	11,0	55	25,8	120	34,9
8S	M 20	80	14,0	150	21,0	220	70,6
9S	M 24	110	28,0	200	32,0	250	50,0
10S	M 30	180	40,0	350	48,0	500	84,5
11S		200	119,0	370	125,0	500	181,5
12S		270	168,0	450	180,0	600	244,5

TWIN-SERIES (acc. to DIN 3015, part 3)

STAUFF Group	Hexagon Head Bolt DIN 931/933	Polypropylene		Polyamide	
		Tightening torque [Nm]	Max. load in pipe direction F [kN]	Tightening torque [Nm]	Max. load in pipe direction F [kN]
1D	M 6	5	0,9	5	0,9
2D	M 8	12	2,1	12	2,2
3D		12	1,9	12	2,0
4D		12	2,7	12	2,9
5D		8	1,7	8	2,5