

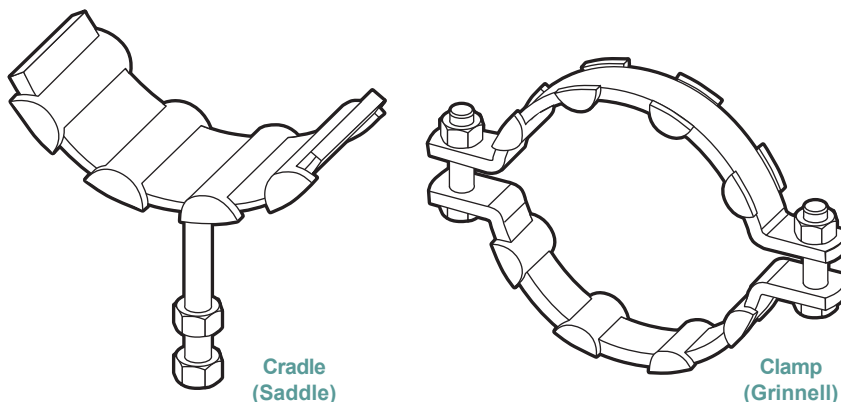


I-ROD CLIP®

General

The I-Rod Clip attaches to new or existing saddle clamp-style supports, eliminating crevice corrosion.

The I-Rod Clip (also called I-Clip) is an individual pipe support clip designed to be installed on the inside diameter of a pipe saddle. The clips are mechanically held in place by the weight of the pipe and of an adhesive strip, so they can be retrofitted easily along existing pipe runs. New Grinnell and cradle-style supports can also be easily fitted with I-Rod Clips, and many pipe support manufacturers have begun to offer I-Rod Clips pre-installed in each new support.



3M Adhesive Strip specifications

Adhesive type	745 (rubber adhesive)
Adhesive carrier	Closed cell, crosslinked, polyethylene foam
Thickness (nominal)	1.6 mm [1/16 in]
Tolerance	1.4 - 2.0 mm [0.053 - 0.080 in]
Approximate density	65 kg/m³ [4 lb. / ft.³]
Peel adhesion (ASTM D3330)	140 N/100 mm width [8 lb./in.]
Static shear (ASTM D3654)	@22 °C [72 °F] -1000 g @49 °C [120 °F] - 250 g
Normal tensile (ASTM D897)	275 kPa [40 lb./in.²]
Dynamic shear (ASTM D1002)	240 kPa [35 lb./in.²]
Temperature resistance	
Short term (hours)	70 °C [158 °F]
Long term (weeks)	49 °C [120 °F]
Cold flex (at -30°C)	No cracking at 6.4 mm [1/4 in]
Shelf life	18 months*
Slitting tolerance	+/- 0.8 mm [1/32 in.]

*When stored in original cartons at 70°F (21°C) and 50% relative humidity

**This was lowest temperature possible at testing facility; actual minimum service temperature is probably lower.

I-Rod, I-Rod HT and PEEK specifications

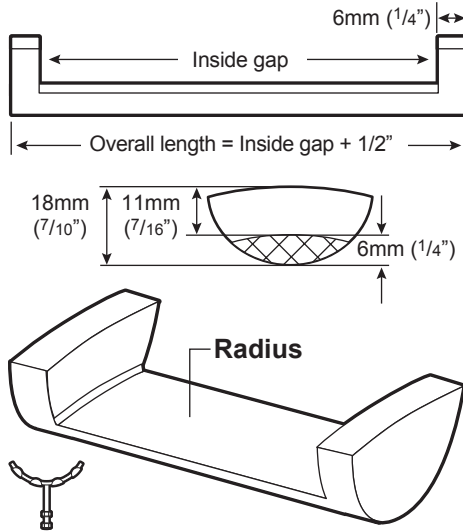
I-Rod Clips can be made from one of three materials. For higher continuous operating temperatures, I-Rod HT or PEEK can be substituted for the regular I-Rod thermoplastic.

Property	I-Rod Metric [Imperial]	I-Rod HT Metric [Imperial]	PEEK unfilled Metric [Imperial]
Density (23°C)	1.41 g/cm3 [0.0509 lb/in3]	1.28 g/cm3 [0.0462 lb/in3]	1.31 g/cm3 [0.047 lb/in3]
Tensile strength	64.8 MPa [9.4 ksi]	114 MPa [16.5 ksi]	110 MPa [16 ksi]
Tensile modulus	2.62 GPa [380 ksi]	3.45 GPa [500 ksi]	3.44 GPa [500 ksi]
Elongation @ break	30-60%	30-60%	20%
Flexural modulus	2.76 GPa [400 ksi]	3.45 GPa [500 ksi]	4.13 GPa [600 ksi]
Flexural strength	82.7 MPa [13 ksi]	138 MPa [20 ksi]	172 MPa [25 ksi]
Comp. strength	103 MPa [15 ksi]	152 MPa [22 ksi]	127 MPa [20 ksi]
Coefficient of friction	0.25	0.42	-
IZOD impact	0.534 J/cm [1 ft-lb/in]	0.267 J/cm [0.5 ft-lb/in]	0.534 J/cm [1 ft-lb/in]
Rock. hardness M/R	88/120	112/125	100/126
Min. service temp**	-110 °C [-166° F]	-	-
Max. service temp	83 °C [181° F]	171 °C [340 ° F]	249 °C [480 ° F]
Melting point	168 °C [329 ° F]	210 °C [410 ° F]	340 °C [644 ° F]
Coefficient of linear expansion	97.2 µm/m/°C [54 µin/in/°F]	55.8 µm/m/°C [31 µin/in/°F]	-
Heat deflection	104 °C [220 ° F]	204 °C [400 ° F]	160 °C [320 ° F]
Flammability rating	HB	V/0	V/0
Dialectic strength	16.5 kV/mm [420 V/mil]	32.7 kV/mm [830 V/mil]	18.9 kV/mm [480 V/mil]



I-Rod Clips for 3-10" pipe

I-Rod Clips for small supports and Grinnell clamps designed for pipe with a nominal size of 10 inches or less have an internal radius, as shown.



Standard cradles (120°)

Nominal pipe size	Inside gap	Part number	HT part number
80mm [3"]	106 mm [4 1/4"]	IRD0204	IRD0274
100mm [3"]	106 mm [4 1/4"]	IRD0205	IRD0275
150mm [3"]	106 mm [4 1/4"]	IRD0206	IRD0276
200mm [8"]	106 mm [4 1/4"]	IRD0207	IRD0277
250mm [10"]	106 mm [4 1/4"]	IRD0208	IRD0278



U.S. standard clamp (360°)

Nominal pipe size	Inside gap	Part number	HT part number
3"	1 1/4"	IRD0190	IRD0280
4"	1 1/2"	IRD0191	IRD0281
6"	1 3/4"	IRD0192	IRD0169
8"	1 3/4"	IRD0193	IRD0282
10"	2 1/4"	IRD0194	IRD0283

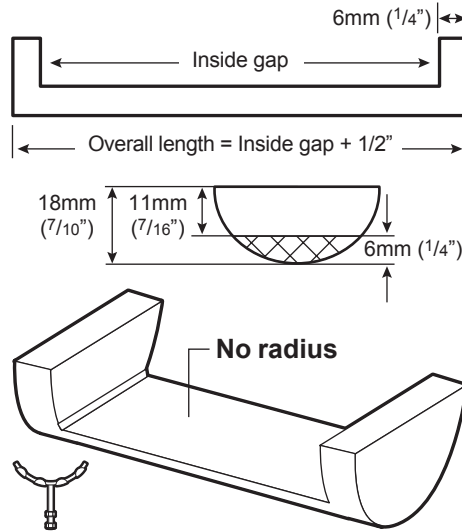


UK standard clamp (360°)

Nominal pipe size	Inside gap	Part number	HT part number
80mm	46mm	IRD0259	IRD0298
100mm	56mm	IRD0260	IRD0299
150mm	71mm	IRD0261	IRD0300
200mm	71mm	IRD0262	IRD0271
250mm	71mm	IRD0263	IRD0301

I-Rod Clips for 12-36" pipe

I-Rod Clips for use with pipe larger than 10 inches have no radius.



Standard cradles (120°)

Nominal pipe size	Inside gap	Part number	HT part number
12-14"[300-350mm]	106 mm [4 1/4"]	IRD0202	IRD0224
16-18"[400-450mm]	106 mm [4 1/4"]	IRD0202	IRD0224
20-24"[500-600mm]	156 mm [6 1/4"]	IRD0213	IRD0279
26-36"[650-900mm]	156 mm [6 1/4"]	IRD0213	IRD0279



U.S. standard clamp (360°)

Nominal pipe size	Inside gap	Part number	HT part number
12"	2 1/4"	IRD0195	IRD0284
14"	2 3/4"	IRD0196	IRD0285
16-20"	2 3/4"	IRD0196	IRD0285
24"	3 1/4"	IRD0200	IRD0170
26-28"	3 1/4"	IRD0200	IRD0170
30-36"	4 1/4"	IRD0202	IRD0224



UK standard clamp (360°)

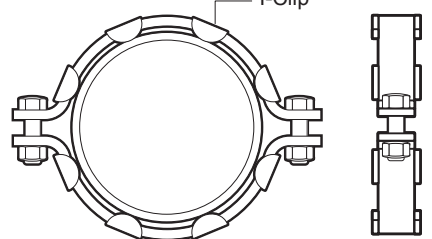
Nominal pipe size	Inside gap	Part number	HT part number
300mm	57mm	IRD0264	IRD0302
350mm	70mm	IRD0265	IRD0303
400-500mm	70mm	IRD0265	IRD0303
550, 600mm	83mm	IRD0265	IRD0303
650, 700mm	83mm	IRD0266	IRD0306
750, 800mm	108mm	IRD0266	IRD0306

Number of recommended I-Rod Clips

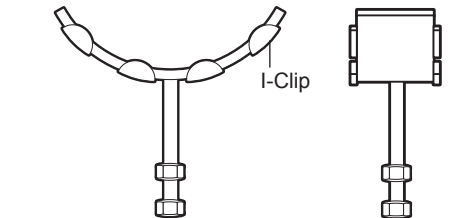
I-Rod Clips should always be fitted in even numbers for saddle and cradle-style supports.

Nominal pipe size mm [in]	(1) No. clips required Clamp	(2) No. clips required Cradle
100 [4] and under	4	2
150 [6]	6	2
200 [8]	8	4
250 [10]	8	4
300 [12]	8	4
350 [14]	8	4
400 [16]	10	6
450 [18]	10	6
500 [20]	10	6
600 [24]	12	6
700 [28]	14	8
750 [30] and over	16	8

1. Clamp (Grinnell)



2. Cradle (Saddle)



I-Rod clip custom sizes available

Custom sizes are available to fit any Grinnell or saddle clamp. To supply I-Rod Clips at the correct custom size and number, two dimensions are required: (A) Nominal pipe size of the support and (B) cradle width.

