



STA-LOK®

Tie Rods & Tie Bar Systems

For Architectural Projects Worldwide



“
THE FINEST STAINLESS
STEEL ALLOYS, FULLY
TRACEABLE, EXPERTLY
ENGINEERED.
”

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FOR THE MOST BEAUTIFUL
PROJECTS **CHOOSE STA-LOK.**

Sta-Lok tie rod systems are designed to complement the world's most creative projects, providing structural function and aesthetic design.

Sta-Lok use the finest stainless steel alloys, fully traceable, expertly engineered. Eternally flawless, durable and sustainable.

Stainless steel rod systems have unique attributes that facilitate architectural design in many different applications.

Our product information has been compiled to help select the structural tie rod and fitting options that best suit your application.

Structural bars and fittings are available as individual components or as complete systems.

For projects that require unique design elements our technical specialists are available to assist with project details and product selection to meet your design and budgetary expectations.

TO MAKE
VISIONS REALITY
CHOOSE STA-LOK.



It is our heritage which is the source of our continued inspiration. Established by my father, Ivor Barfield in 1973, Sta-Lok remains a family run business, where exceptional customer service and quality are engrained into our company culture.

We are proud to have retained our roots as a UK manufacturing company, with all of our products manufactured to the highest quality standards at our facility in Essex, England.

We believe that customer service is an extension of the quality products we produce. Our technical specialists take time to understand the needs of our clients and we believe this is the starting point for the delivery of excellence.

For over 48 years our tie rod solutions have been used in many different market sectors and projects in architecture, construction and industry around the world.

We look forward to collaborating with you on your future projects.

Terry Barfield

TERRY BARFIELD
Managing Director

Our Materials

Sta-Lok products are manufactured in our own UK factory to the highest standards, using premium quality stainless steel materials, selected for their tensile strength and corrosion resistance.

Quality is paramount. All products are individually inspected by our expert engineers and have full material traceability, beginning with the receipt of the raw material and continuing throughout the manufacturing process.

We are ISO 9001 accredited, re-enforcing our passion for quality throughout our entire company and product range.

Sta-Lok's Tension Systems are manufactured in accordance with BS EN 1090: Execution of Steel Structures and Aluminium Structures, to Execution Class 2.

Material specification to EN 10088.

Sta-Lok tie rods are manufactured from high strength stainless steel grade 316 (1.4401/4), Duplex 2205 (1.4462) and F51.

Mechanical Properties:

M6 - M16 Bars 0.2% Proof strength 500 N/mm² Tensile strength 700 N/mm²

M20 - M36 Bars 0.2% Proof strength 460 N/mm² Tensile strength 640 N/mm²

In compliance with:

BS EN 1090-1:2009 + A1:2011
BS EN 1090-2:2018 + A1:2011

UKCA



Certificate Number 12888
BS EN 1090
ISO 9001



Benefits

of stainless steel over other materials

Features

The unique properties of stainless steel make it an ideal material selection for engineers, specifiers and designers over the total life of a project, stainless is often the best value option.

Cleanliness & Hygiene

Stainless steel is one of the most hygienic materials and does not support the growth of bacteria and other pathogens. Stainless steel is low maintenance and easy to keep clean, making it the perfect choice for environments where cleanliness is necessary.

Durability

The austenitic microstructure of the 300 series stainless steels provides high toughness making it one of the most durable metals, retaining its strength in very high and low temperatures and weather extremes.

“IDEAL MATERIAL SELECTION FOR ENGINEERS, SPECIFIERS AND DESIGNERS.”

Corrosion resistance

Stainless steel is resistant to corrosion. Its unique chemical composition creates a surface that repairs itself quickly when it is damaged, allowing the metal to resist corrosion and rust.

Aesthetic appearance

The bright, easily maintained surface of stainless steel provides lasting looks and a modern and attractive appearance.



Sustainable Stainless

Sta-Lok has used stainless steel in the manufacture of wire rope fittings, wire rope assemblies and tie rod systems since 1973. Today stainless steel plays an important role in sustainable design. Ultimately the most environmentally friendly materials are corrosion resistant and durable. They demonstrate high recycle and recapture rates, provide long service life and reduced resource use.

Stainless steels are corrosion and fire resistant. These material properties provide low maintenance cost and low environmental impact.

Aesthetically pleasing, with better mechanical properties than other materials, stainless steel is a sustainable material of choice for architectural building and construction projects.

Recycled Content

The UK, USA and World Green Building Councils recognise the environmental benefits of using high recycled content materials, their respective green building rating systems award points for their use. The average recycled content of stainless steel is 60% with some steel producers now achieving up to 80% reclaimed material.

End of Life (EOL) Recapture Rate

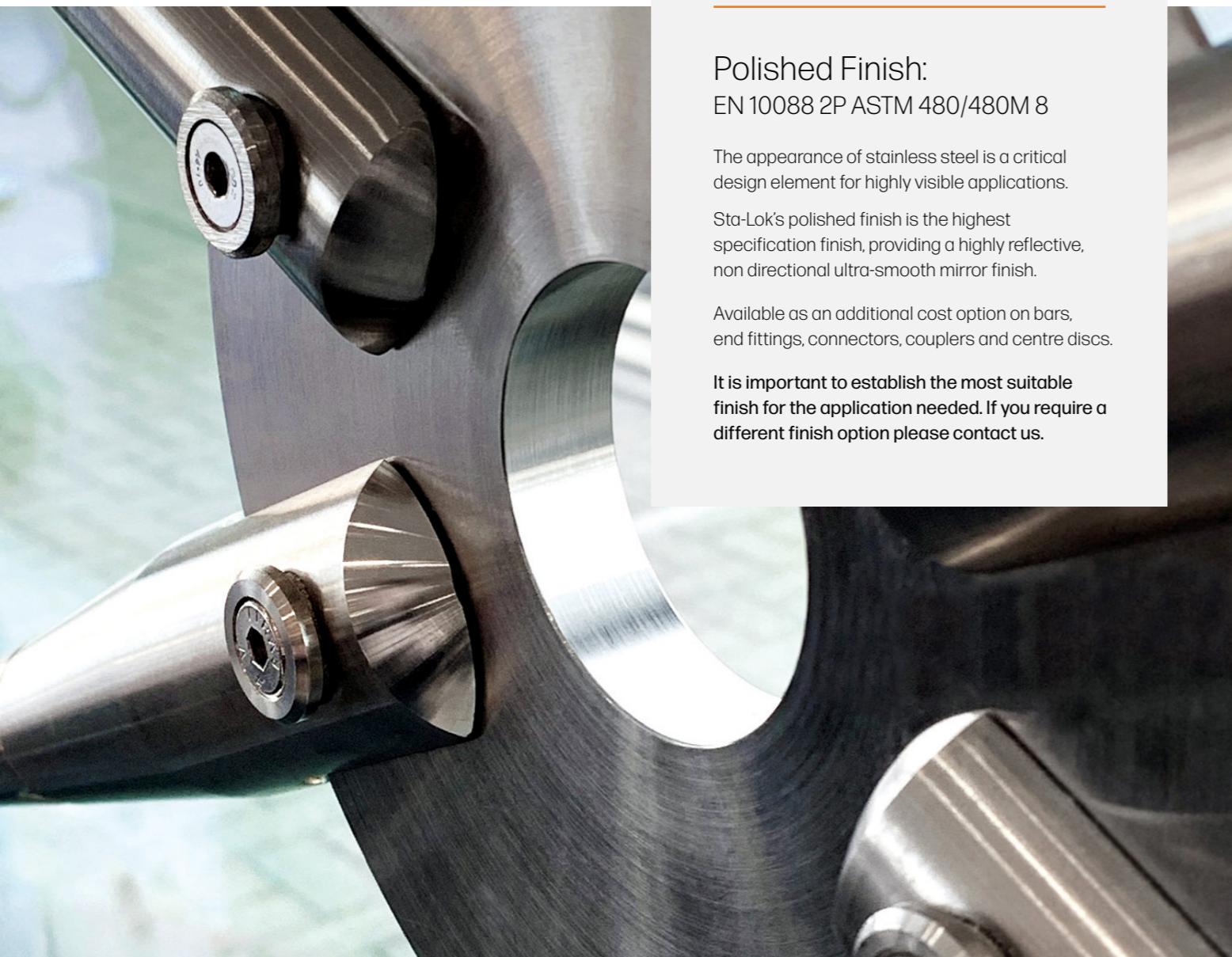
Specifiers are increasingly aware that truly sustainable materials should not only meet the intended design life requirements but should also be recaptured at the end and recycled.

Stainless steel is 100% recyclable allowing all of it to be recaptured and reused after the life of the design requirements. Making stainless steel one of the ultimate materials to use in sustainable design.



Stainless Steel Finishes

Sta-Lok offer a number of surface finish options conforming to EN 10088 part 2 and ASTM 480/480M.



Natural Mill Finish:

1D 2D-2G

Available on bars only. The low reflective appearance may contain natural grain features and is suitable on applications where visual appearance is less critical.

Satin Brushed Finish:

EN 10088 2K ASTM 480/480M 4

A 240 grit uniform unidirectional surface finish with low reflectivity Ra = 0.5.

Our standard surface finish, ideal for all external and internal applications, providing a soft brushed finish with a fine grain.

Available on bars, end fittings, connectors, couplers and centre discs.

Polished Finish:

EN 10088 2P ASTM 480/480M 8

The appearance of stainless steel is a critical design element for highly visible applications.

Sta-Lok's polished finish is the highest specification finish, providing a highly reflective, non directional ultra-smooth mirror finish.

Available as an additional cost option on bars, end fittings, connectors, couplers and centre discs.

It is important to establish the most suitable finish for the application needed. If you require a different finish option please contact us.

“

STA-LOK PRODUCTS ARE **DESIGNED AND ENGINEERED TO COMPLEMENT** THE WORLD'S MOST BEAUTIFUL BUILDINGS AND PROJECTS.

”

Custom Solutions

Sta-Lok products have been designed to suit most applications.

We understand that each project is different and may have bespoke or unique requirements.

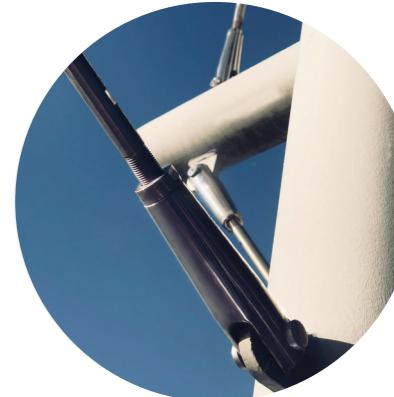
Sta-Lok are able to provide complete custom manufacturing solutions, drawing on the expertise and experience we have developed over the last 48 years.

Our Architectural Division will work collaboratively with you to source the most suitable stainless steel alloys and product designs.

All custom solutions are manufactured in our UK facility to the highest standards, individually inspected with full material traceability.

When required, product testing and certification can be provided through accredited testing facilities.

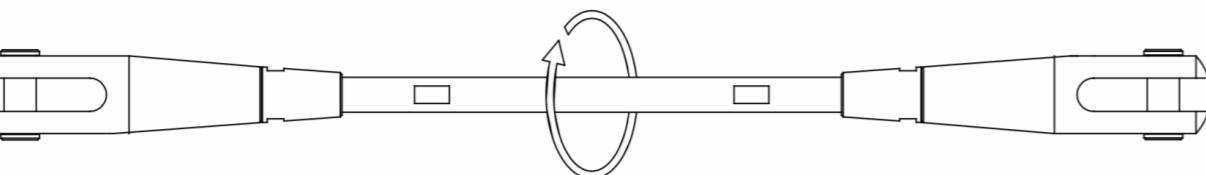
If you have a bespoke project, we welcome the opportunity to discuss further.



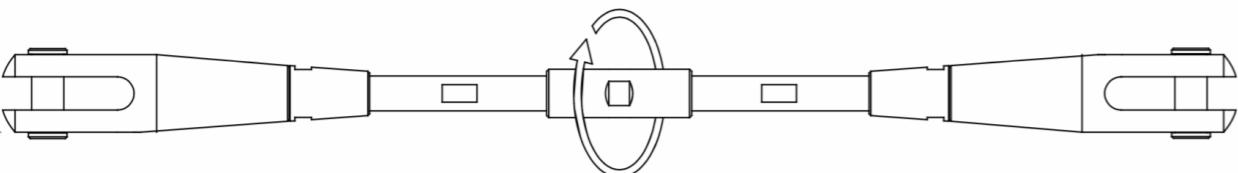
Adjustment

The clever design of Sta-Lok's rod systems provides adjustment without the need for turnbuckles. Our standard system lengths are up to 3 metres. System lengths up to 6 metres can be manufactured to special order.

- Sta-Lok structural tie rods are manufactured with a right handed thread on one end and left handed thread at the other end
- When assembled with Sta-Lok end fittings, the adjustment is achieved by rotation of the rod in a clockwise or counter-clockwise direction, using the spanner flats on the rod
- Where a rod connector is used to join rod lengths, the spanner flats on the body of the rod connector should be used to adjust the rod system
- Where used, locking nuts should be firmly secured after adjustment
- Sta-Lok rod systems are supplied pre-assembled and set at the mid-point of adjustment of each end fitting



Rotate Clockwise to Tension

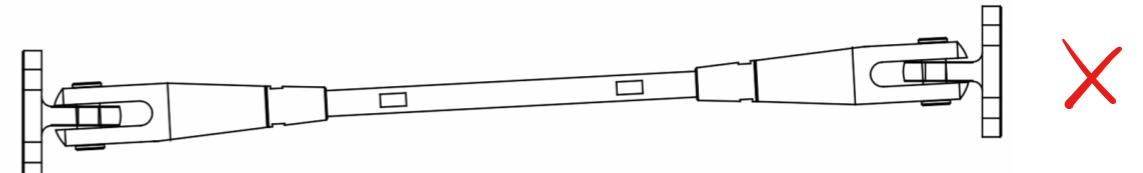
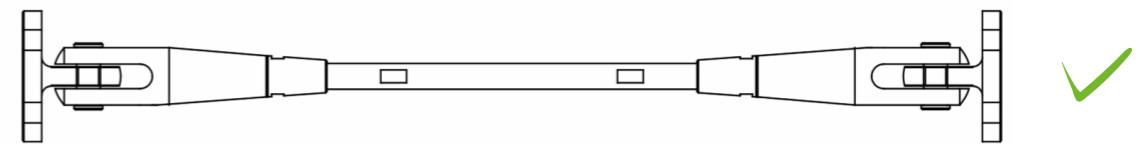
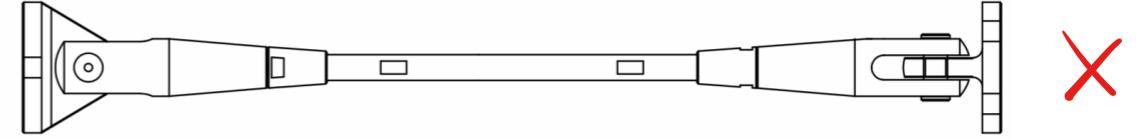
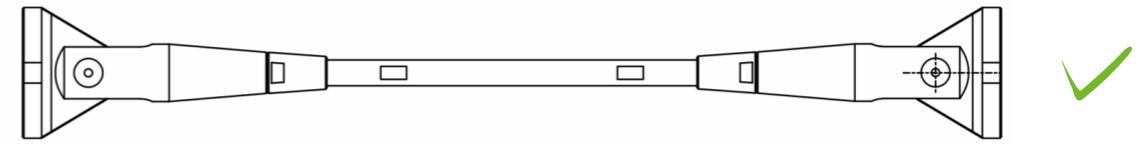


Rotate Clockwise to Tension

Alignment

Sta-Lok tie rod systems are supplied ready to install and can be fitted straight from the box.

- Sta-Lok structural tie rods fitted with clevis, adjustable forks or Spade ends should be correctly installed in the same plane
- Misalignment will lead to transverse loadings on connecting pins and connecting plates and may lead to damage on protective coatings



President Clinton Library, USA

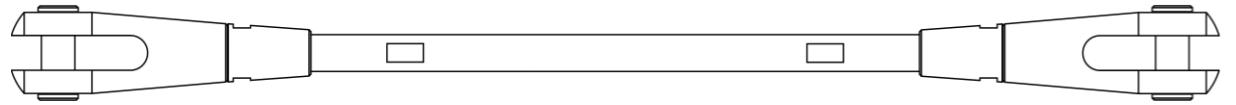
Over 1016 metres / 40,000 inches of
Sta-Lok stainless steel rods, fittings and connectors.

2,285 individually engineered pieces.



SC Clevis System

The SC Clevis System is designed and developed to meet modern constructional tolerances and projects with small adjustment requirements. The SC Clevis System is our cost effective fully machined fork. System lengths up to 6 meters are available, rod connectors can be used to achieve longer spans.



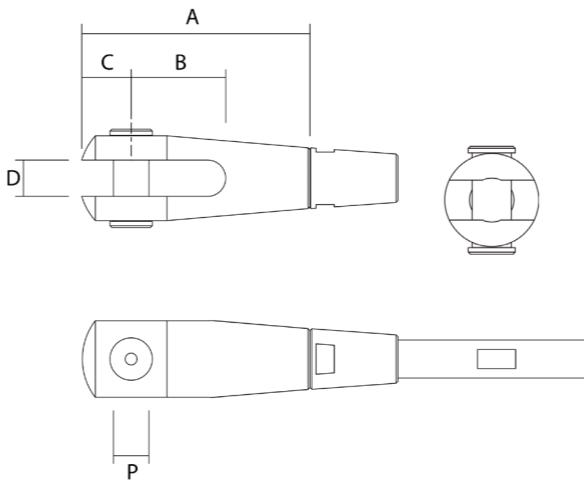
* shown with conical nut

Reference	Metric	UNF	MM	Inch	KN	KIPS	KN	KIPS
SC2S-M6	M6		15	0.591	8.9	2.00	125	2.81
SC2S-14		1/4	15	0.591	7.5	1.69	14.3	3.21
SC2S-M8	M8		15	0.591	16.4	3.69	23.0	5.17
SC2S-516		5/16	15	0.591	12.1	2.72	22.9	5.15
SC2S-M10	M10		15	0.591	26.1	5.87	36.6	8.23
SC2S-38		3/8	15	0.591	18.6	4.18	35.3	7.94
SC2S-M12	M12		15	0.591	38.1	8.57	53.4	12.00
SC2S-12		1/2	15	0.591	34.1	7.67	64.8	14.57
SC2S-M16	M16		15	0.591	72.1	16.21	100.9	22.68
SC2S-58		5/8	15	0.591	54.9	12.34	104.3	23.45
SC2S-M20	M20		15	0.591	103.6	23.29	144.0	32.37
SC2S-34		3/4	15	0.591	80.4	18.07	137.8	30.98
SC2S-M22	M22		20	0.787	129.5	29.11	180.1	40.49
SC2S-78		7/8	20	0.787	109.9	24.71	188.4	42.35
SC2S-M24	M24		20	0.787	149.2	33.54	207.5	46.65
SC2S-100		1	20	0.787	142.9	32.13	245.0	55.08
SC2S-M27	M27		20	0.787	196.4	44.15	273.3	61.44
SC2S-118		1 1/8	20	0.787	243.8	54.81	339.3	76.28
SC2S-M30	M30		25	0.984	238.7	53.66	332.1	74.66
SC2S-114		1 1/4	25	0.984	307.1	69.04	427.3	96.06
SC2S-M36	M36		25	0.984	349.2	78.50	485.8	109.21

- All Rods and components are machined from solid stainless steel alloys offering maximum strength and superiority over other manufacturing processes
- Tie rods adjustment is achieved by rotating in a clockwise/counter clockwise direction
- Machined Spanner Flats included as standard
- Conical locking nuts cover tie rod threads at mid adjustment, providing a clean line between the rod and end fitting
- Double headed pins, including pin head and locking screw are supplied as standard
- Tie rod systems are supplied ready to install. Fork ends are pre-assembled and adjusted to your pin/pin requirements
- Available in Satin (standard) or Polished Finish

SC Clevis Dimensions

Our standard machined, cost effective clevis end. Designed for use where a short range of adjustment is required.

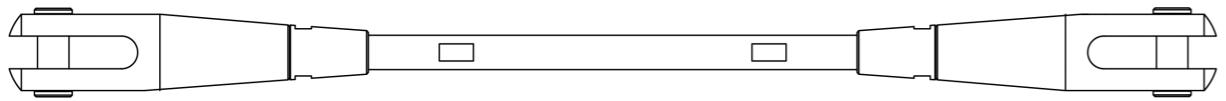


* shown with conical nut

Reference	Thread	Assembly Adjustment +/-	Yield Loads	Break Loads	A		B		C		D		
Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch	MM	Inch	MM	Inch	MM	Inch
SC M6L	SC M6R	M6		47.0	1.838	10.0	0.394	8.5	0.335	6.3	0.248	6.2	0.245
SC 14L	SC 14R		1/4	47.0	1.838	10.0	0.394	8.5	0.335	6.3	0.248	6.2	0.245
SC M8L	SC M8R	M8		57.0	2.244	14.7	0.580	10.3	0.406	8.0	0.315	7.8	0.308
SC 516L	SC 516R		5/16	57.0	2.244	14.7	0.580	10.3	0.406	8.0	0.315	7.8	0.308
SC M10L	SC M10R	M10		76.0	2.992	22.0	0.866	16.0	0.630	11.0	0.433	10.9	0.430
SC 38L	SC 38R		3/8	76.0	2.992	22.0	0.886	16.0	0.630	11.0	0.433	10.9	0.430
SC M12L	SC M12R	M12		86.0	3.386	27.0	1.063	19.0	0.748	12.7	0.500	12.4	0.490
SC 12L	SC 12R		1/2	86.0	3.386	27.0	1.063	19.0	0.748	12.7	0.500	12.4	0.490
SC M16L	SC M16R	M16		107.0	4.213	30.0	1.181	23.0	0.906	16.0	0.630	15.6	0.615
SC 58L	SC 58R		5/8	107.0	4.213	30.0	1.181	23.0	0.906	16.0	0.630	15.6	0.615
SC M20L	SC M20R	M20		122.0	4.803	40.0	1.575	26.0	1.024	19.0	0.748	18.5	0.728
SC 34L	SC 34R		3/4	122.0	4.803	40.0	1.575	26.0	1.024	19.0	0.748	18.5	0.728
SC M22L	SC M22R	M22		143.0	5.630	45.0	1.772	32.0	1.260	22.0	0.866	21.5	0.847
SC 78L	SC 78R		7/8	143.0	5.630	45.0	1.772	32.0	1.260	22.0	0.866	21.5	0.847
SC M24L	SC M24R	M24		160.0	6.299	50.0	1.969	35.0	1.378	25.0	0.984	25.0	0.984
SC 100L	SC 100R		1	160.0	6.299	50.0	1.969	35.0	1.378	25.0	0.984	25.0	0.984
SC M27L	SC M27R	M27		170.0	6.693	50.0	1.969	41.0	1.614	28.0	1.102	28.2	1.110
SC 118L	SC 118R		1 1/8	170.0	6.693	50.0	1.969	41.0	1.614	28.0	1.102	28.2	1.110
SC M30L	SC M30R	M30		190.0	7.480	60.0	2.362	44.0	1.732	31.0	1.220	30.0	1.181
SC 114L	SC 114R		1 1/4	190.0	7.480	60.0	2.362	44.4	1.750	31.7	1.250	31.5	1.240
SC M36L	SC M36R	M36		209.0	8.228	60.0	2.362	50.0	1.969	35.0	1.378	35.4	1.394

Adjustable Fork F34 System

A sleek fully machined fork clevis system. Developed to meet the requirements of modern architectural design. The Sta-Lok F34 system offers a wide range of adjustment, provided through the clever design of the fork end eliminating the need for turnbuckles. System lengths up to 6 meters are available, rod connectors can be used to achieve longer spans.



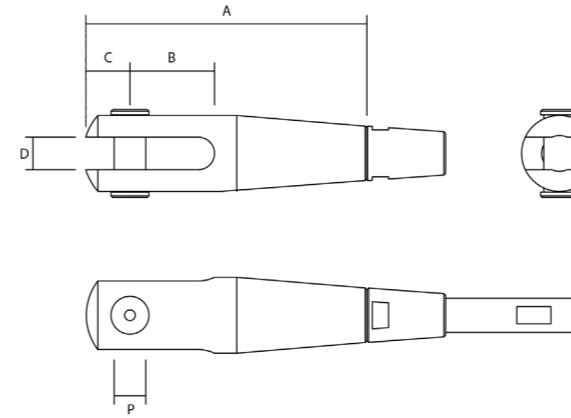
** shown with conical nut*

Reference	Metric	UNF	MM	Inch	KN	KIPS	KN	KIPS
F34FF-M6	M6		28	1.102	8.9	2.00	12.5	2.81
F34FF-14		1/4	28	1.102	7.5	1.69	14.3	3.21
F34FF-M8	M8		36	1.417	16.4	3.69	23.0	5.17
F34FF-516		5/16	36	1.417	12.1	2.72	22.9	5.15
F34FF-M10	M10		43	1.693	26.1	5.87	36.6	8.23
F34FF-38		3/8	43	1.693	18.6	4.18	35.3	7.94
F34FF-M12	M12		43	1.693	38.1	8.57	53.4	12.00
F34FF-12		1/2	43	1.693	34.1	7.67	64.8	14.57
F34FF-M16	M16		53	2.087	72.1	16.21	100.9	22.68
F34FF-58		5/8	53	2.087	54.9	12.34	104.3	23.45
F34FF-M20	M20		58	2.283	103.6	23.29	144.0	32.37
F34FF-34		3/4	58	2.283	80.4	18.07	137.8	30.98
F34FF-M22	M22		60	2.362	129.5	29.11	180.1	40.49
F34FF-78		7/8	60	2.362	109.9	24.71	188.4	42.35
F34FF-M24	M24		66	2.598	149.2	33.54	207.5	46.65
F34FF-100		1	66	2.598	142.9	32.13	245.0	55.08
F34FF-M27	M27		78	3.071	196.4	44.15	273.3	61.44
F34FF-118		1 1/8	78	3.071	243.8	54.81	339.3	76.28
F34FF-M30	M30		98	3.858	238.7	53.66	332.1	74.66
F34FF-114		1 1/4	98	3.858	307.1	69.04	427.3	96.06
F34FF-M36	M36		98	3.858	349.2	78.50	485.8	109.21

- All Rods and components are machined from solid stainless steel alloys offering maximum strength and superiority over other manufacturing processes
- Tie rods adjustment is achieved by rotating in a clockwise/counter clockwise direction
- Machined Spanner Flats included as standard
- Conical locking nuts cover tie rod threads at mid adjustment, providing a clean line between the rod and end fitting
- Double headed pins, including pin head and locking screw are supplied as standard
- Tie rod systems are supplied ready to install. Fork ends are pre-assembled and adjusted to your pin/pin requirements
- Available in Satin (standard) or Polished Finish

Adjustable Fork F34 Dimensions

A fully machined stainless steel fork clevis with a wide range of adjustment.



- Available with left and right hand Metric or UNF machined internal threads
- Available in Satin (standard) or Polished Finish
- Double headed pins, including pin heads and locking screws are supplied as standard
- Supplied with conical nut as standard. Alternative locking nut options are available (page 33)
- Isolation between different materials can be achieved using isolation washers and sleeves (page 29 & 32)

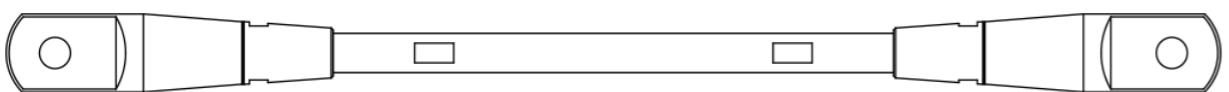


** shown with conical nut*

Reference	Thread	A	B	C	D	P					
Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch	MM	Inch	MM	Inch
F34-M6L	F34-M6R	M6		59.0	2.323	10.0	0.394	8.5	0.335	6.3	0.248
F34-14L	F34-14R	1/4		59.0	2.323	10.0	0.394	8.5	0.335	6.3	0.248
F34-M8L	F34-M8R	M8		78.0	3.071	14.7	0.580	10.3	0.406	8.0	0.315
F34-516L	F34-516R	5/16		78.0	3.071	14.7	0.580	10.3	0.406	8.0	0.315
F34-M10L	F34-M10R	M10		104.0	4.094	22.0	0.866	16.0	0.630	11.0	0.433
F34-38L	F34-38R	3/8		104.0	4.094	22.0	0.866	16.0	0.630	11.0	0.433
F34-M12L	F34-M12R	M12		115.0	4.528	27.0	1.063	19.0	0.748	12.7	0.500
F34-12L	F34-12R	1/2		115.0	4.528	27.0	1.063	19.0	0.748	12.7	0.500
F34-M16L	F34-M16R	M16		140.0	5.512	30.0	1.181	23.0	0.906	16.0	0.630
F34-58L	F34-58R	5/8		140.0	5.512	30.0	1.181	23.0	0.906	16.0	0.630
F34-M20L	F34-M20R	M20		166.0	6.535	40.0	1.575	26.0	1.024	19.0	0.748
F34-34L	F34-34R	3/4		166.0	6.535	40.0	1.575	26.0	1.024	19.0	0.748
F34-M22L	F34-M22R	M22		184.0	7.244	45.0	1.772	32.0	1.260	22.0	0.866
F34-78L	F34-78R	7/8		184.0	7.244	45.0	1.772	32.0	1.260	22.0	0.866
F34-M24L	F34-M24R	M24		207.0	8.150	50.0	1.969	35.0	1.378	25.0	0.984
F34-100L	F34-100R	1		207.0	8.150	50.0	1.969	35.0	1.378	25.0	0.985
F34-M27L	F34-M27R	M27		228.0	8.976	50.0	1.969	41.0	1.614	28.0	1.102
F34-118L	F34-118R	1 1/8		228.0	8.976	50.0	1.969	41.0	1.614	28.0	1.102
F34-M30L	F34-M30R	M30		264.0	10.394	60.0	2.362	44.0	1.732	31.0	1.220
F34-114L	F34-114R	1 1/4		264.0	10.394	60.0	2.362	44.4	1.750	31.7	1.250
F34-M36L	F34-M36R	M36		279.0	10.984	60.0	2.362	50.0	1.969	35.0	1.378

Spade F33 System

The fully machined F33 spade system is an alternative end fitting option for fixing plates where a clevis fitting is unsuitable. The Sta-Lok spade system is designed to meet modern constructional tolerances and projects with small adjustment requirements. System lengths up to 6 meters are available, rod connectors can be used to achieve longer spans.



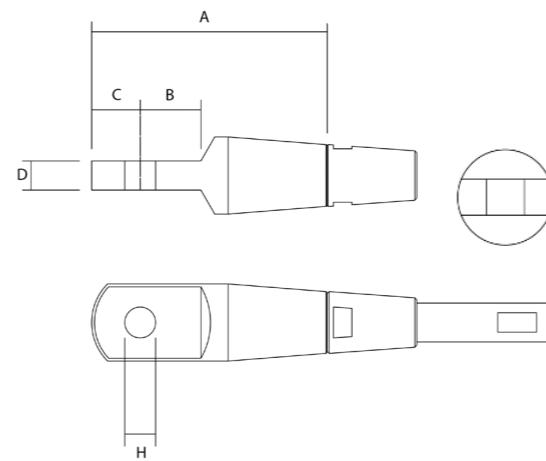
* shown with conical nut

Reference	Metric	UNF	MM	Inch	KN	KIPS	KN	KIPS
F33SS-M6	M6		15	0.591	8.9	2.00	125	2.81
F33SS-14		1/4	15	0.591	7.5	1.69	14.3	3.21
F33SS-M8	M8		15	0.591	16.4	3.69	23.0	5.17
F33SS-516		5/16	15	0.591	12.1	2.72	22.9	5.15
F33SS-M10	M10		15	0.591	26.1	5.87	36.6	8.23
F33SS-38		3/8	15	0.591	18.6	4.18	35.3	7.94
F33SS-M12	M12		15	0.591	38.1	8.57	53.4	12.00
F33SS-12		1/2	15	0.591	34.1	7.67	64.8	14.57
F33SS-M16	M16		15	0.591	72.1	16.21	100.9	22.68
F33SS-58		5/8	15	0.591	54.9	12.34	104.3	23.45
F33SS-M20	M20		15	0.591	103.6	23.29	144.0	32.37
F33SS-34		3/4	20	0.787	80.4	18.07	137.8	30.98
F33SS-M22	M22		20	0.787	129.5	29.11	180.1	40.49
F33SS-78		7/8	20	0.787	109.9	24.71	188.4	42.35
F33SS-M24	M24		20	0.787	149.2	33.54	207.5	46.65
F33SS-100		1	20	0.787	142.9	32.13	245.0	55.08
F33SS-M27	M27		20	0.787	196.4	44.15	273.3	61.44
F33SS-118		1 1/8	20	0.787	243.8	54.81	339.3	76.28
F33SS-M30	M30		25	0.984	238.7	53.66	332.1	74.66
F33SS-114		1 1/4	25	0.984	307.1	69.04	427.3	96.06
F33SS-M36	M36		25	0.984	349.2	78.50	485.8	109.21

- All Rods and components are machined from solid stainless steel alloys offering maximum strength and superiority over other manufacturing processes
- Tie rods adjustment is achieved by rotating in a clockwise/counter clockwise direction
- Machined Spanner Flats included as standard
- Conical locking nuts cover tie rod threads at mid adjustment, providing a clean line between the rod and end fitting
- Tie rod systems are supplied ready to install. Spade ends are pre-assembled and adjusted to your hole centre requirements
- Available in Satin (standard) or Polished Finish

Spade F33 Dimensions

Our fully machined spade end. Designed for use where a short range of adjustment is required.



- Available with left and right hand Metric or UNF machined internal threads
- Available in Satin (standard) or Polished Finish
- Supplied with conical nut as standard. Alternative locking nut options are available (page 33)
- Isolation between different materials can be achieved using isolation washers and sleeves (refer to page 29 & 32)

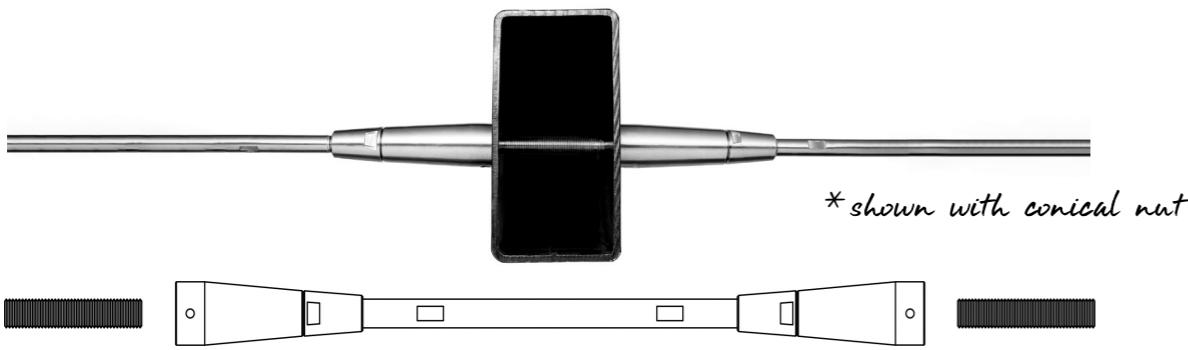


* shown with conical nut

Reference	Thread	A	B	C	D	H					
Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch	MM	Inch	MM	Inch
F33-M6L	F33-M6R	M6		52.0	2.047	10.0	0.394	9.0	0.354	6.0	0.236
F33-14L	F33-14R		1/4	52.0	2.047	10.0	0.394	9.0	0.354	6.0	0.236
F33-M8L	F33-M8R	M8		57.0	2.244	14.0	0.551	11.0	0.433	8.0	0.315
F33-516L	F33-516R		5/16	57.0	2.244	14.0	0.551	11.0	0.433	8.0	0.315
F33-M10L	F33-M10R	M10		74.0	2.913	20.0	0.787	16.0	0.630	11.0	0.433
F33-38L	F33-38R		3/8	74.0	2.913	20.0	0.787	16.0	0.630	11.0	0.433
F33-M12L	F33-M12R	M12		97.0	3.819	25.0	0.984	20.0	0.787	12.0	0.472
F33-12L	F33-12R		1/2	97.0	3.819	25.0	0.984	20.0	0.787	12.0	0.472
F33-M16L	F33-M16R	M16		104.0	4.094	30.0	1.181	26.0	1.024	16.0	0.630
F33-58L	F33-58R		5/8	104.0	4.094	30.0	1.181	26.0	1.024	16.0	0.630
F33-M20L	F33-M20R	M20		136.0	5.354	40.0	1.575	30.0	1.181	19.0	0.748
F33-34L	F33-34R		3/4	136.0	5.354	40.0	1.575	30.0	1.181	19.0	0.748
F33-M22L	F33-M22R	M22		152.0	5.984	45.0	1.772	30.0	1.181	22.0	0.866
F33-78L	F33-78R		7/8	152.0	5.984	45.0	1.772	30.0	1.181	22.0	0.866
F33-M24L	F33-M24R	M24		174.0	6.850	50.0	1.969	40.0	1.575	25.0	0.984
F33100L	F33100R		1	174.0	6.850	50.0	1.969	40.0	1.575	25.0	0.984
F33-M27L	F33-M27R	M27		181.0	7.126	50.0	1.969	41.0	1.614	28.0	1.102
F33-118L	F33-118R		1 1/8	181.0	7.126	50.0	1.969	41.0	1.614	28.0	1.102
F33-M30L	F33-M30R	M30		210.0	8.268	55.0	2.165	51.0	2.008	30.0	1.181
F33-114L	F33-114R		1 1/4	210.0	8.268	55.0	2.165	51.0	2.008	31.7	1.250
F33-M36L	F33-M36R	M36		246.0	9.685	70.0	2.756	60.0	2.362	35.0	1.339

RTP System

Sta-Lok's RTP system is designed for application in glass façades, providing tension and support between hollow sections. High tensile threaded rod sits in the hollow members to connect the RTP end fittings to provide a sleek and minimalist appearance. System lengths up to 6 metres are available, rod connectors can be used to achieve longer spans.

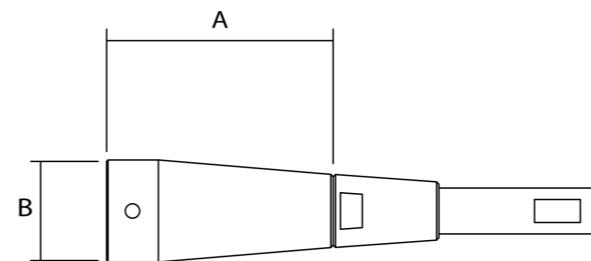


Reference	Metric	UNF	MM	Inch	KN	KIPS	KN	KIPS
RTP2S-M6	M6		15	0.591	8.9	2.00	12.5	2.81
RTP2S-14		1/4	15	0.591	7.5	1.69	14.3	3.21
RTP2S-M8	M8		15	0.591	16.4	3.69	23.0	5.17
RTP2S-516		5/16	15	0.591	12.1	2.72	22.9	5.15
RTP2S-M10	M10		15	0.591	26.1	5.87	36.6	8.23
RTP2S-38		3/8	15	0.591	18.6	4.18	35.3	7.94
RTP2S-M12	M12		15	0.591	38.1	8.57	53.4	12.00
RTP2S-12		1/2	15	0.591	34.1	7.67	64.8	14.57
RTP2S-M16	M16		15	0.591	72.1	16.21	100.9	22.68
RTP2S-58		5/8	15	0.591	54.9	12.34	104.3	23.45
RTP2S-M20	M20		20	0.787	103.6	23.29	144.0	32.37
RTP2S-34		3/4	20	0.787	80.4	18.07	137.8	30.98
RTP2S-M22	M22		20	0.787	129.5	29.11	180.1	40.49
RTP2S-78		7/8	20	0.787	109.9	24.71	188.4	42.35
RTP2S-M24	M24		20	0.787	149.2	33.54	207.5	46.65
RTP2S-100		1	20	0.787	142.9	32.13	245.0	55.08
RTP2S-M27	M27		20	0.787	196.4	44.15	273.3	61.44
RTP2S-118		1 1/8	20	0.787	243.7	54.79	339.3	76.28
RTP2S-M30	M30		25	0.984	238.7	53.66	332.1	74.66
RTP2S-114		1 1/4	25	0.984	307.1	69.04	427.3	96.06
RTP2S-M36	M36		25	0.984	349.2	78.50	485.8	109.21

- Tension rods and RTP components are machined from solid stainless steel alloys offering maximum strength and superiority over other manufacturing processes
- Tie rods adjustment is achieved by rotating in a clockwise/counter clockwise direction
- Machined Spanner Flats included as standard
- Right hand threaded rod is supplied with each RTP system to connect the RTP ends through the hollow sections
- Conical locking nuts cover tie rod threads to provide a clean line between the rod and end fitting
- Tie rod systems are supplied ready to install. RTP ends are pre-assembled and adjusted to your end to end requirements
- Available in Satin (standard) or Polished Finish

RTP Dimensions

A fully machined RTP end with sleek geometry and a minimalist look.



** shown with conical nut*

Reference	Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch
RTP-M6L	RTP-M6R	M6			45.0	1.772	14.0	0.551
RTP-14L	RTP-14R		1/4		45.0	1.772	14.0	0.551
RTP-M8L	RTP-M8R	M8			51.0	2.008	17.0	0.669
RTP-516L	RTP-516R		5/16		51.0	2.008	17.0	0.669
RTP-M10L	RTP-M10R	M10			61.0	2.402	25.0	0.984
RTP-38L	RTP-38R		3/8		61.0	2.402	25.0	0.984
RTP-M12L	RTP-M12R	M12			63.0	2.480	32.0	1.260
RTP-12L	RTP-12R		1/2		63.0	2.480	32.0	1.260
RTP-M16L	RTP-M16R	M16			75.0	2.953	38.0	1.496
RTP-58L	RTP-58R		5/8		75.0	2.953	38.0	1.496
RTP-20L	RTP-20R	M20			89.0	3.504	44.0	1.732
RTP-34L	RTP-34R		3/4		89.0	3.504	44.0	1.732
RTP-M22L	RTP-M22R	M22			105.0	4.134	50.0	1.969
RTP-78L	RTP-78R		7/8		105.0	4.134	50.0	1.969
RTP-M24L	RTP-M24R	M24			119.0	4.685	57.0	2.244
RTP-100L	RTP-100R		1		119.0	4.685	57.0	2.244
RTP-M27L	RTP-M27R	M27			130.0	5.118	63.0	2.480
RTP-118L	RTP-118R		1 1/8		130.0	5.118	63.0	2.480
RTP-M30L	RTP-M30R	M30			140.0	5.512	69.0	2.717
RTP-114L	RTP-114R		1 1/4		140.0	5.512	69.0	2.717
RTP-M36L	RTP-M36R	M36			161.0	6.339	82.0	3.228

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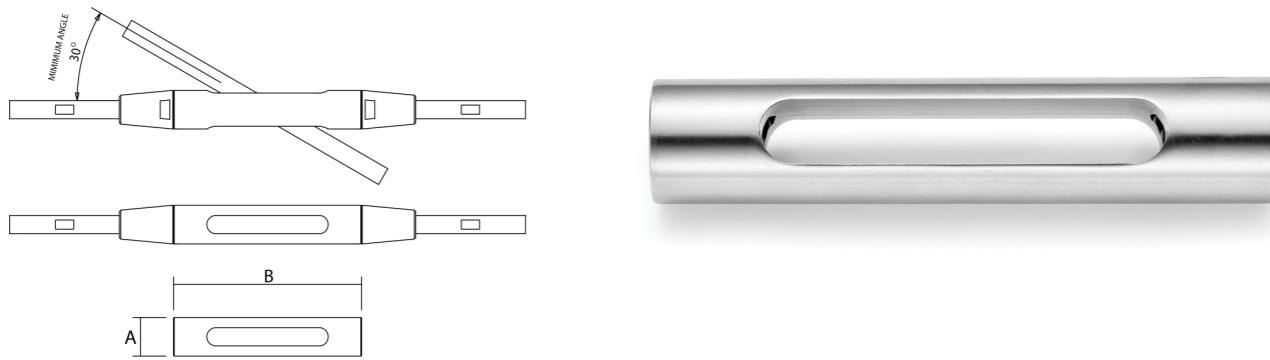
COMBINING STRUCTURAL
FUNCTION AND BEAUTIFUL
AESTHETICS, STA-LOK'S SYSTEMS
ARE PERFECTLY SUITED FOR
STRUCTURES AND PROJECTS
OF ALL SIZES.

”



Cross Coupler

Sta-Lok's stainless steel cross coupler has been designed for use where tie rod cross in the same plane, providing angular alignment from 30 degrees. By reducing the number of fork connectors required, they are a stylish and cost-effective solution for cross bracing without a central disc.

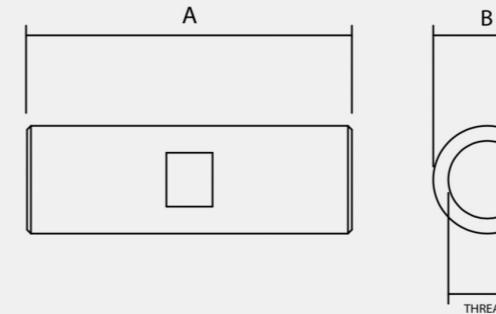


Reference	Thread	Metric	UNF	A MM	B Inch	KN	KIPS
CC-M10	M10			200	0.820	104.0	4.262
CC-38		3/8		200	0.820	104.0	4.262
CC-M12	M12			25.4	1.041	124.0	5.082
CC-12		1/2		25.4	1.041	124.0	5.082
CC-M16	M16			31.0	1.270	168.0	6.885
CC-58		5/8		31.0	1.270	168.0	6.885
CC-M20	M20			38.0	1.557	193.0	7.910
CC-34		3/4		38.0	1.557	193.0	7.910
CC-M22	M22			44.0	1.803	217.0	8.893
CC-78		7/8		44.0	1.803	217.0	8.893
CC-M24	M24			47.0	1.926	245.0	10.041
CC-100		1		47.0	1.926	245.0	10.041
CC-M27	M27			53.0	2.172	268.0	10.984
CC-118		1 1/8		53.0	2.172	268.0	10.984
CC-M30	M30			57.0	2.336	287.0	11.762
CC-114		1 1/4		57.0	2.336	287.0	11.762
CC-M36	M36			63.0	2.582	342.0	14.016

- For use of intersecting rods
- Eliminates rod deflection
- Variable angle alignment
- Conical locking nuts provide a clean line between the rod and coupler fitting
- Available with left and right hand Metric or UNF machined internal threads
- Available in Satin (standard) or Polished Finish to match the required rod finish

Rod Connector

Machined stainless steel rod connector, developed to couple multiple rods to provide an increased system span length. Where used, the spanner flat on the rod connector should be used to adjust the rod system.



- Connects Sta-Lok rods for longer spans
- Machined spanner flats included as standard, allow adjustments to be made at any time
- Available with left and right hand Metric or UNF machined internal threads
- Available in Satin (standard) or Polished Finish to match the required rod finish

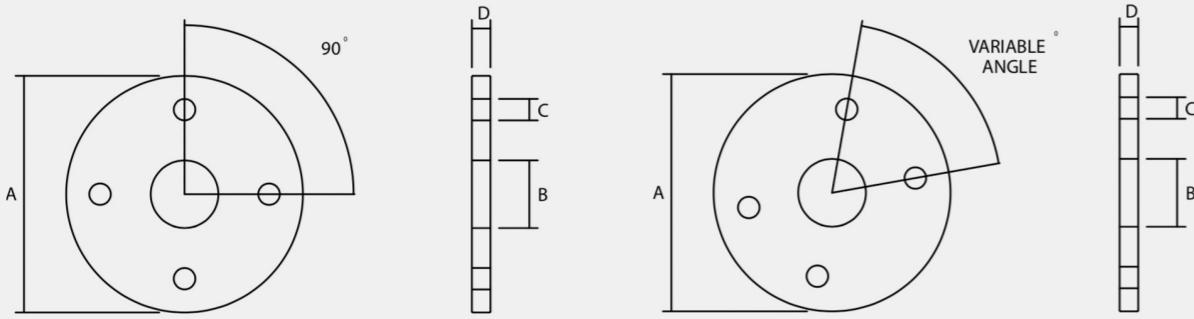


Reference	Thread	Metric	UNF	A MM	B Inch	A MM	B Inch
RC-M6		M6		30.2	1.190	9.5	0.375
RC-14			1/4	30.2	1.190	9.5	0.375
RC-M8		M8		34.9	1.375	11.1	0.437
RC-5/16			5/16	34.9	1.375	11.1	0.437
RC-M10		M10		41.3	1.625	14.3	0.563
RC-38			3/8	41.3	1.625	14.3	0.563
RC-M12		M12		55.6	2.189	19.1	0.750
RC-12			1/2	55.6	2.189	19.1	0.750
RC-M16		M16		66.7	2.625	22.2	0.875
RC-58			5/8	66.7	2.625	22.2	0.875
RC-M20		M20		79.4	3.125	28.6	1.125
RC-34			3/4	79.4	3.125	28.6	1.125
RC-M22		M22		92.1	3.625	31.8	1.250
RC-78			7/8	92.1	3.625	31.8	1.250
RC-M24		M24		104.7	4.125	34.9	1.375
RC-100			1	104.7	4.125	34.9	1.375
RC-M27		M27		142.9	5.625	41.3	1.625
RC-118			1 1/8	142.9	5.625	41.3	1.625
RC-M30		M30		161.00	6.338	44.4	1.750
RC-114			1 1/4	161.00	6.338	44.4	1.750
RC-M36		M36		182.00	7.165	51.00	2.000

Centre Discs (4 hole)

Sta-Lok's four hole centre discs are fully machined to fit Sta-Lok SC Clevis or Adjustable Fork F34 Systems. The HD4 disc allows rod systems to be connected together, creating both a structural and architectural feature.

- Available with 90 degree or variable hole angles as requested.
- Designed to BS 5950 - 1:2000
- Material specification to EN 10088
- Available in Satin (standard) or Polished Finish to match the required rod finish



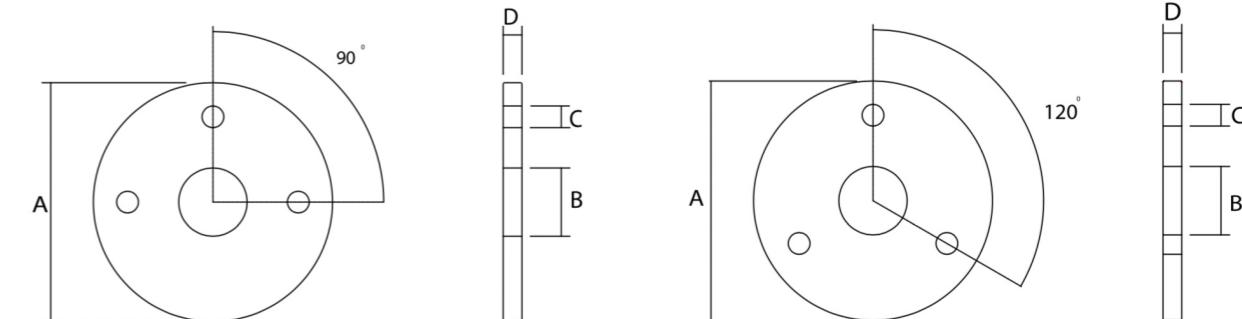
Reference		A	B	C	D				
90°	Variable	MM	Inch	MM	Inch	MM	Inch	MM	Inch
HD4 90 - M6	HD4 VAR - M6	70.0	2.756	20.0	0.787	6.3	0.248	5.5	0.217
HD4 90 - M8	HD4 VAR - M8	80.0	3.150	20.0	0.787	8.0	0.315	7.0	0.276
HD4 90 - M10	HD4 VAR - M10	120.0	4.724	40.0	1.575	11.0	0.433	10.0	0.394
HD4 90 - M12	HD4 VAR - M12	140.0	5.512	40.0	1.575	12.7	0.500	11.0	0.433
HD4 90 - M16	HD4 VAR - M16	180.0	7.087	50.0	1.969	16.0	0.630	15.0	0.591
HD4 90 - M20	HD4 VAR - M20	200.0	7.874	55.0	2.165	19.0	0.748	18.0	0.709
HD4 90 - M22	HD4 VAR - M22	230.0	9.055	60.0	2.362	22.0	0.866	21.0	0.827
HD4 90 - M24	HD4 VAR - M24	260.0	10.236	70.0	2.756	25.0	0.984	24.0	0.945
HD4 90 - M27	HD4 VAR - M27	300.0	11.811	70.0	2.756	28.0	1.102	27.0	1.063
HD4 90 - M30	HD4 VAR - M30	350.0	13.780	90.0	3.543	30.0	1.181	29.0	1.142
HD4 90 - M36	HD4 VAR - M36	350.0	13.780	90.0	3.543	36.0	1.417	34.0	1.339



Centre Discs (3 hole)

Sta-Lok's three hole centre discs are fully machined to fit Sta-Lok SC Clevis or Adjustable Fork F34 Systems. They provide the perfect looking central piece for roof truss applications, while limiting deflection in longer tension rod systems.

- Available with 90 degree or 120 degree hole angles
- Designed to BS 5950 - 1:2000
- Material specification to EN 10088
- Available in Satin (standard) or Polished Finish to match the required rod finish

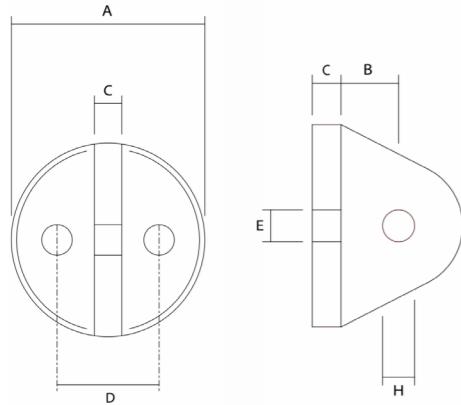


Reference		A	B	C	D				
90°	120°	MM	Inch	MM	Inch	MM	Inch	MM	Inch
HD3 90 - M6	HD3 120 - M6	70.0	2.756	20.0	0.787	6.3	0.248	5.5	0.217
HD3 90 - M8	HD3 120 - M8	80.0	3.150	20.0	0.787	8.0	0.315	7.0	0.276
HD3 90 - M10	HD3 120 - M10	120.0	4.724	40.0	1.575	11.0	0.433	10.0	0.394
HD3 90 - M12	HD3 120 - M12	140.0	5.512	40.0	1.575	12.7	0.500	11.0	0.433
HD3 90 - M16	HD3 120 - M16	180.0	7.087	50.0	1.969	16.0	0.630	15.0	0.591
HD3 90 - M20	HD3 120 - M20	200.0	7.874	55.0	2.165	19.0	0.748	18.0	0.709
HD3 90 - M22	HD3 120 - M22	230.0	9.055	60.0	2.362	22.0	0.866	21.0	0.827
HD3 90 - M24	HD3 120 - M24	260.0	10.236	70.0	2.756	25.0	0.984	24.0	0.945
HD3 90 - M27	HD3 120 - M27	300.0	11.811	70.0	2.756	28.0	1.102	27.0	1.063
HD3 90 - M30	HD3 120 - M30	350.0	13.780	90.0	3.543	30.0	1.181	29.0	1.142
HD3 90 - M36	HD3 120 - M36	350.0	13.780	90.0	3.543	36.0	1.417	34.0	1.339



Fork Fixing Plate

The machined fixing plate is designed to fit Sta-Lok SC Clevis or Adjustable Fork F34 Systems. This standard fixing plate is designed for brick, block, glass, timber and steel. Refer to fixing manufactures information, for correct selection of fixing bolts.



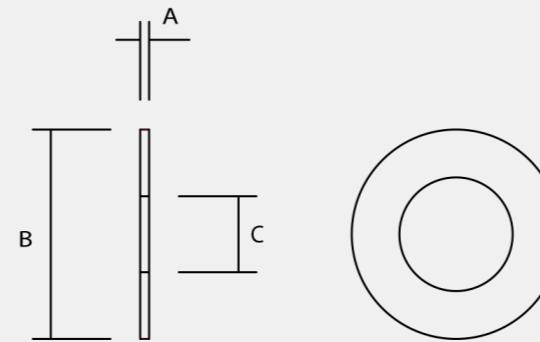
Reference	A	B	C	D	E	H	MM	Inch	MM	Inch	MM	Inch	MM	Inch	Hole
							MM	Inch	MM	Inch	MM	Inch	MM	Inch	
P - M6	44.0	1.732	16.0	0.629	6.0	0.217	31.0	1.220	M6	6.4	0.252				
P - M8	56.0	2.205	18.0	0.709	7.0	0.276	36.0	1.417	M8	8.0	0.315				
P - M10	67.0	2.638	24.0	0.945	10.0	0.393	42.0	1.654	M10	11.0	0.437				
P - M12	81.0	3.189	29.0	1.142	12.0	0.472	47.0	1.850	M12	12.7	0.500				
P - M16	104.0	4.094	32.0	1.260	15.0	0.591	57.0	2.244	M16	16.0	0.630				
P - M20	127.0	5.000	40.0	1.575	19.0	0.748	68.0	2.677	M20	19.1	0.752				
P - M22	140.0	5.512	46.0	1.811	21.0	0.827	72.0	2.835	M22	22.2	0.874				
P - M24	152.0	5.984	50.0	1.969	23.0	0.906	80.0	3.150	M24	25.4	1.000				
P - M30	185.0	7.283	61.0	2.401	29.0	1.142	105.0	4.134	M30	29.4	1.157				
P - M36	232.0	9.134	74.0	2.913	35.0	1.378	128.0	5.039	M36	35.4	1.393				

- Provides angular alignment
- Manufactured from high strength stainless steel
- Available in Satin (standard) or Polished Finish to match the required rod finish

Isolation Washer

Isolating between different material types can be an important factor in some design applications and can prevent electrolytic actions and galvanic reactions between stainless steel alloys and different material types.

Isolation between connection plate surfaces is achieved using Isolation washers.



- Designed to fit with the Sta-Lok SC Clevis, Adjustable Fork F34 Fittings
- Isolate dissimilar metals and prevent cross contamination
- Made from Natural Nylon 6
- High mechanical damping ability & excellent wear resistance
- For use with Isolation Sleeve (Page 32) for the isolation of dissimilar metals on tie bars



Reference	A	B	C	MM	Inch	MM	Inch	MM	Inch
IW-06	1.5	0.059	19.0	0.748	12.7	0.500			
IW-08	1.5	0.059	22.0	0.866	12.7	0.500			
IW-10	1.5	0.059	25.0	0.984	16.0	0.630			
IW-11	1.5	0.059	25.0	0.984	16.0	0.630			
IW-12	1.5	0.059	35.0	1.378	19.0	0.748			
IW-16	1.5	0.059	35.0	1.378	22.2	0.874			
IW-20	1.5	0.059	50.0	1.969	25.4	1.000			
IW-22	2.0	0.079	50.0	1.969	32.0	1.260			
IW-24	2.0	0.079	57.0	2.244	35.0	1.378			
IW-27	2.0	0.079	75.0	2.953	38.1	1.500			
IW-30	4.0	0.157	75.0	2.953	44.0	1.732			
IW-36	4.0	0.157	80.0	3.150	48.0	1.890			



Portcullis House, Westminster, London

Isolation Sleeve

Isolating between different material types can be an important factor in some design applications and can prevent electrolytic actions and galvanic reactions between stainless steel alloys and different material types.

Isolation for holes in connection plates and structural steel can be achieved using isolation sleeves.

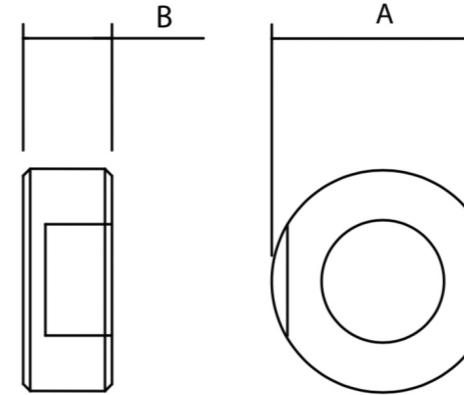


	Reference	A	B	C		
	MM	Inch	MM	Inch	MM	Inch
IS-06	5.4	0.213	12.7	0.500	6.4	0.252
IS-08	7.0	0.276	12.7	0.500	8.0	0.315
IS-10	8.4	0.331	16.0	0.630	9.4	0.370
IS-11	10.2	0.402	16.0	0.630	11.2	0.441
IS-12	11.7	0.461	19.0	0.748	12.7	0.500
IS-16	15.0	0.591	22.2	0.874	16.0	0.630
IS-20	18.1	0.713	25.4	1.000	19.1	0.752
IS-22	21.2	0.835	32.0	1.260	22.2	0.874
IS-24	24.4	0.961	35.0	1.378	25.4	1.000
IS-27	27.0	1.063	38.1	1.500	28.5	1.122
IS-30	30.0	1.181	44.0	1.732	30.0	1.181
IS-36	35.0	1.378	48.0	1.890	36.0	1.417

- Designed to fit with the Sta-Lok SC Clevis, Adjustable Fork F34 Fittings
- Isolates dissimilar metals and prevent cross contamination. Resists corrosion and most chemicals
- Made from glass loaded Nylon 66 as standard
- High mechanical damping ability & excellent wear resistance
- For use with Isolation Washer (Page 29) for the isolation of dissimilar metals on tie bars
- Other material options are available

Flat Nut

The flat nut can be purchased for spares or provided as an alternative to the Sta-Lok Conical nut for all tension rod systems. Machined from high strength stainless steel and provided with a spanner flat.



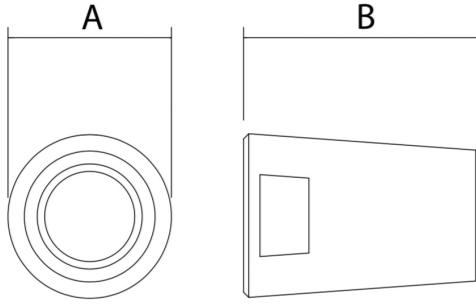
- For locking Sta-Lok SC Clevis, Adjustable F34, F33 Spade and RTP end fittings
- Available with left and right hand Metric or UNF machined internal threads
- Available in Satin (standard) or Polished Finish to match the required rod finish



Reference		A		B			
Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch
N-M6L	N-M6R	M6		11.1	0.437	4.7	0.187
N-14L	N-14R		1/4	11.1	0.437	4.7	0.187
N-M8L	N-M8R	M8		14.3	0.562	5.6	0.219
N-516L	N-516R		5/16	14.3	0.562	5.6	0.219
N-M10L	N-M10R	M10		19.0	0.750	6.4	0.250
N-38L	N-38R		3/8	19.0	0.750	6.4	0.250
N-M12L	N-M12R	M12		25.4	1.000	7.9	0.312
N-12L	N-12R		1/2	25.4	1.000	7.9	0.312
N-M16L	N-M16R	M16		28.6	1.125	9.5	0.375
N-58L	N-58R		5/8	28.6	1.125	9.5	0.375
N-M20L	N-M20R	M20		31.7	1.250	11.1	0.437
N-34L	N-34R		3/4	31.7	1.250	11.1	0.437
N-M22L	N-M22R	M22		38.1	1.500	12.7	0.500
N-78L	N-78R		7/8	38.1	1.500	12.7	0.500
N-M24L	N-M24R	M24		44.4	1.750	15.9	0.625
N-100L	N-100R		1	44.4	1.750	15.9	0.625
N-M27L	N-M27R	M27		50.8	2.000	15.9	0.625
N-118L	N-118R		1 1/8	50.8	2.000	15.9	0.625
N-M30L	N-M30R	M30		50.8	2.000	18.0	0.709
N-114L	N-114R		1 1/4	50.8	2.000	18.0	0.709
N-M36L	N-M36R	M36		58.0	2.283	18.0	0.709

Conical Nut

The elegantly designed conical nut is the standard nut provided with all Sta-Lok tension rod systems. The conical locking nuts cover tie rod threads at mid adjustment, providing a clean line between the rod and end fitting.

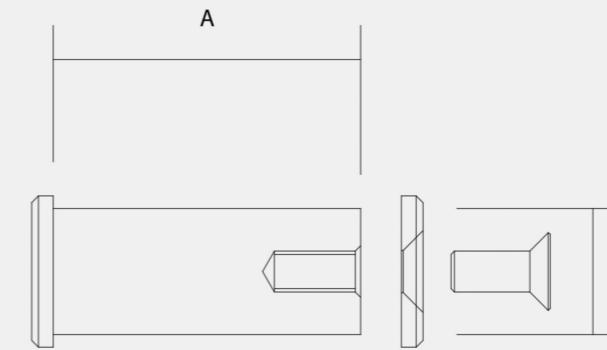


- Provided as standard with Sta-Lok SC Clevis, Adjustable F34, F33 Spade and RTP end fittings
- Available with left and right hand Metric or UNF machined internal threads
- Manufactured from high strength stainless steel and provided with a spanner flat
- Available in Satin (standard) or Polished Finish to match the required rod finish

Reference	Thread	A	B				
Left Hand	Right Hand	Metric	UNF	MM	Inch	MM	Inch
CN-M6L	CN-M6R	M6		11.1	0.437	22.2	0.875
CN-14L	CN-14R		1/4	11.1	0.437	22.2	0.875
CN-M8L	CN-M8R	M8		14.3	0.562	25.4	1.000
CN-516L	CN-516R		5/16	14.3	0.562	25.4	1.000
CN-M10L	CN-M10R	M10		19.0	0.750	28.6	1.125
CN-38L	CN-38R		3/8	19.0	0.750	28.6	1.125
CN-M12L	CN-M12R	M12		25.4	1.000	35.7	1.406
CN-12L	CN-12R		1/2	25.4	1.000	35.7	1.406
CN-M16L	CN-M16R	M16		28.6	1.125	41.2	1.625
CN-58L	CN-58R		5/8	28.6	1.125	41.2	1.625
CN-M20L	CN-M20R	M20		31.7	1.250	46.1	1.815
CN-34L	CN-34R		3/4	31.7	1.250	46.1	1.815
CN-M22L	CN-M22R	M22		38.1	1.500	60.0	2.364
CN-78L	CN-78R		7/8	38.1	1.500	60.0	2.364
CN-M24L	CN-M24R	M24		44.4	1.750	69.9	2.750
CN-100L	CN-100R		1	44.4	1.750	69.9	2.750
CN-M27L	CN-M27R	M27		50.8	2.000	76.2	3.000
CN-118L	CN-118R		1 1/8	50.8	2.000	76.2	3.000
CN-M30L	CN-M30R	M30		54.0	2.125	85.0	3.346
CN-114L	CN-114R		1 1/4	54.0	2.125	85.0	3.346
CN-M36L	CN-M36R	M36		58.0	2.283	85.0	3.346

Double Headed Pin

Double headed pins, including pin heads and locking screws are supplied as standard with both the SC Clevis and the Adjustable F34 Fork fittings and rod systems.



- Where dissimilar metals are apparent, use in conjunction with Isolation Washers and Isolation Sleeves
- Where isolation sleeves cannot be used, Xylan coated pins are an alternative option, providing a high load, wear and Corrosion resistant coating

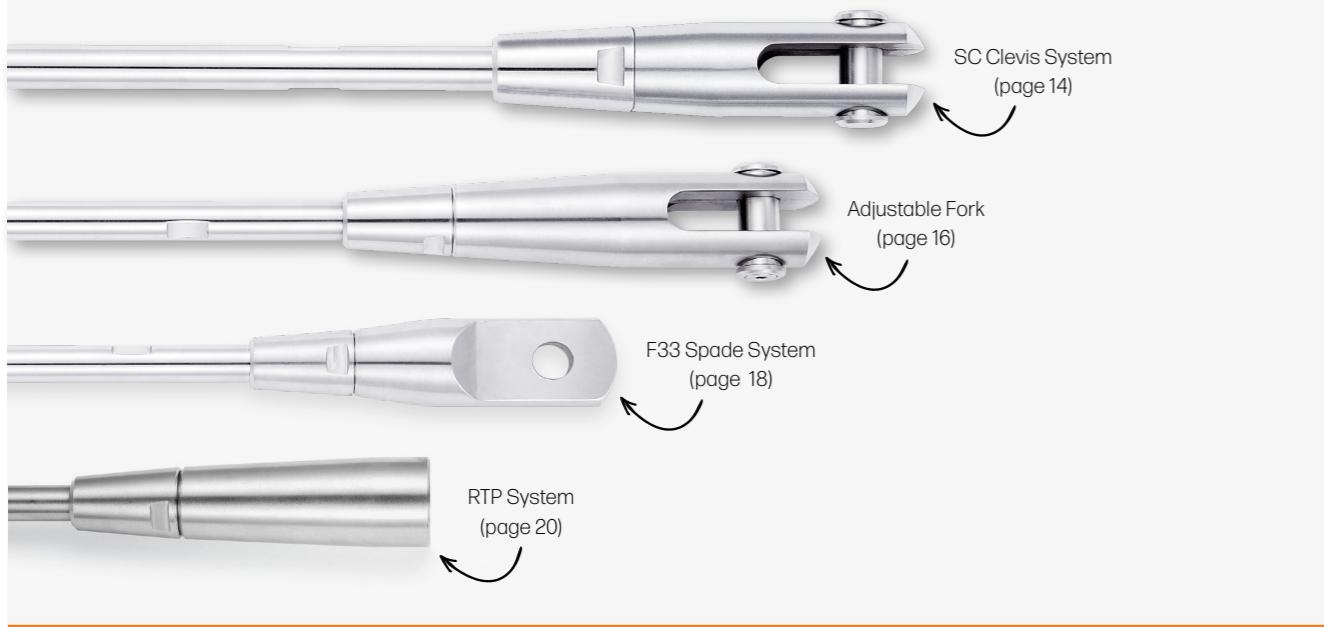


Reference	MM	Inch	MM	Inch
D37-06	14.5	0.573	6.2	0.245
D37-08	18.3	0.719	7.8	0.308
D37-11	25.6	1.010	10.9	0.430
D37-12	32.5	1.281	12.4	0.490
D37-16	38.9	1.531	15.6	0.615
D37-20	45.2	1.781	18.5	0.728
D37-22	51.3	2.020	21.5	0.847
D37-24	57.6	2.270	25.0	0.985
D37-27	64.0	2.520	28.2	1.110
D37-30	70.4	2.770	31.5	1.240
D37-36	83.0	3.270	35.4	1.394

Assembled by us. Made for you.

How to order your assembly:

1 Choose your System

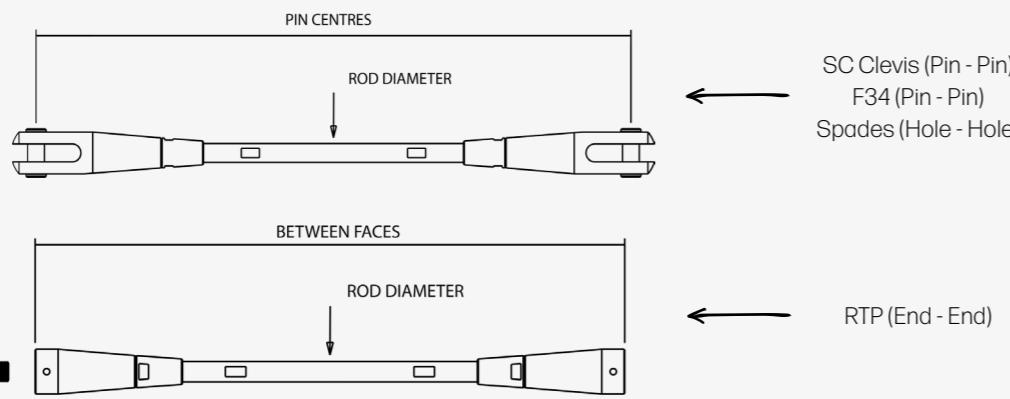


2 Choose your rod diameter

Anything between M6 to M36.

3 Choose the length of your assembly

Sta-Lok's Tension Rod systems are supplied pre-assembled and set at the mid-point of adjustment of each end fitting.



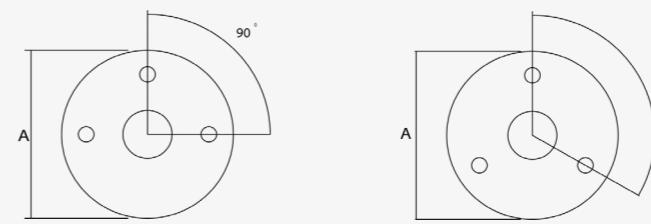
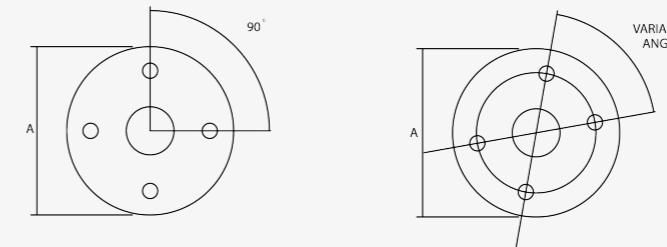
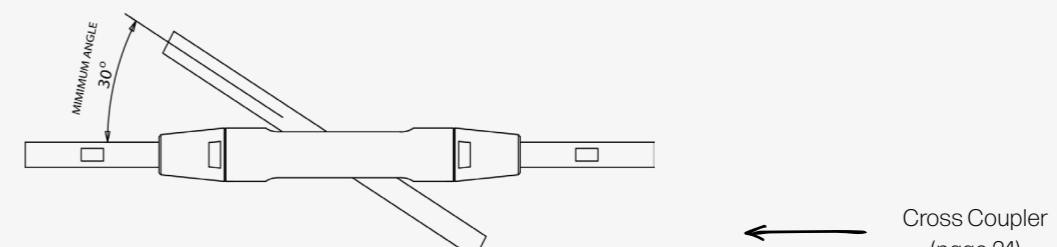
4 Choose your finish

- Natural
- Satin (standard)
- Polished

Refer to page 8 for finish specifications.

5 Using a cross coupler or a disc

Let us know your angles.



6 Let us take care of it!

Supplied ready to install, our systems can be fitted straight from the box.

We make it easy to specify and order the perfectly suited tension rod systems for your project.
No matter the size of the project, we ensure your requirements and specifications are met.

STA-LOK®

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Manningtree, Essex CO11 2QH
England

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enquiries@stalok.com

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