

## Trellex Hose System

### For heavy-duty use

The Trellex Hose System is the natural choice for handling materials in heavy-duty hydraulic or pneumatic conveying systems.

The system is designed on the basis of first-hand experience of transporting highly abrasive iron, copper and other metallic or non-metallic ores in mineral processing plants.

Rubber offers superior wear resistance when handling abrasive rocks and sands, as well as slag and other materials.

The Trellex Hose System is used in sand, lime, and glass plants, in quarries, in coal preparation and power plants, as well as in steel and cement works.

### Rubber absorbs energy

Rubber is an elastomer. While steel and ceramics present a rigid surface to the particles, rubber has the advantage of resilience.

The kinetic energy of the slurry generates deformations and cracks on a rigid pipe.

In contrast, the Trellex Hose absorbs the load by yielding, and then returning to its original form.

Vibrations from e.g. a pump are dampened.

### Appropriate conditions

The angle at which particles strike a surface is decisive for the process of wear. Both laboratory tests and practical experience show that rubber is more resistant than other materials when impacting angle is less than 5°, or greater than 50°.

In slurry lines, the angle of incidence is close to 0°. Process water does not corrode rubber, but instead acts as a lubricant, further decreasing erosion. Trellex Hose are ideally suited for hydraulic transport of abrasive rocks and sands as well as for use in loops in tailing lines to compensate for thermal expansion and contraction of steel pipes.

*Facilitates complex pipe layouts in tight spaces.*



## Trellex Hose

### Supplied in two types

Trellex Slurry Hose for hydraulic pressure and suction service of abrasive slurries containing particles of up to 20 mm in size, and Trellex Bulk Hose for pneumatic service of abrasive powders and chips of up to 30 mm in size.

Trellex Slurry Hose and Trellex Bulk Hose are both reinforced with polyester cord and a fully embedded spiral of galvanized steel wire. The safety factor against bursting is 3.2 times the working pressure. A smooth outer cover with a fabric texture ensures good resistance to wear and weather.

Thick, smooth-walled wear tubes provide low resistance to flow and extremely long life.

Together with the Trellex Coupling and the Trellex Gasket, these hoses form a highly reliable system that retains full flow area with no turbulence at the joints. Spot wear and leaks are eliminated.

Utilizing the Trellex Hose System to its full potential will keep your plant cleaner and further reduce costs by increasing mill availability. Limiting the use to bends only will also limit the extent to which the Trellex Hose System can work to your advantage.

Trellex Slurry Hose for hydraulic applications has a NR wear tube of Trellex 40 rubber. The hose withstands operating temperatures of up to 60-70° C.

Trellex Bulk Hose for pneumatic applications has a SBR wear tube of Trellex 60 rubber. The hose withstands operating temperatures of up to 70-80° C.

Sizes Ø 44-127 mm are supplied in coiled lengths of 20 m. Larger sizes in straight lengths of 10 m.

Both Trellex Slurry and Trellex Bulk Hose are available without steel wire spiral, for gravity service only.



### The benefits

- Safety factor 3.2 times the working pressure.
- Smooth outer cover ensures good resistance to wear and weather.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- Simple installation, No special tools needed.
- Easily configured to meet changes in production environments.
- Less vibrations.
- Lower noise levels.

mm	ID inch	OD mm	Standard length m	Working pressure Mpa	Vacuum %
44	1.75	63	20	1.0	90
51	2.00	71	20	1.0	90
63	2.50	80	20	1.0	90
76	3.00	98	20	1.0	90
80	3.15	102	20	1.0	90
90	3.50	112	20	1.0	90
102	4.00	125	20	1.0	90
116	4.50	138	20	1.0	90
127	5.00	154	20	1.0	90
140	5.50	166	10	1.0	90
152	6.00	178	10	1.0	90
180	7.10	212	10	1.0	90
190	7.50	224	10	1.0	90
204	8.00	238	10	1.0	90
240	9.50	281	10	0.5	50
254	10.00	291	10	0.5	50
305	12.00	341	10	0.5	50
355	14.00	401	10	0.5	50
405	16.00	452	10	0.5	50
457	18.00	503	10	0.5	50
508	20.00	558	10	0.5	50
610	24.00	664	10	0.5	50



## Trellex 3xD Bends

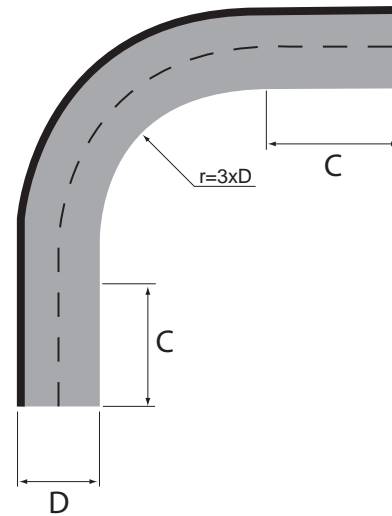
Trellex 3xD Bends are intended for use in cramped spaces where the Trellex Hose cannot be sufficiently curved, or e.g. as feed spouts for magnetic separators or other similar equipment. They are available both as 90° and 45° bends, and are supplied in two types.

For optimum wear economy, the outer curve features a > 30 % thicker wear tube than the inner curve.

Straight shanks, extending beyond the 3xD curve, allow fitting of the Trellex Couplings.

Trellex Slurry Bends for hydraulic applications have a, NR wear tube of Trellex 40 rubber. The bend withstands operating temperatures of up to 60-70° C.

Trellex Bulk Bends for pneumatic applications have a, SBR wear tube of Trellex 60 rubber. The bend withstands operating temperatures of up to 70-80° C.



### The benefits

- Safety factor 3.2 times the working pressure.
- Smooth outer cover ensures good resistance to wear and weather.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- Simple installation, No special tools needed.
- 30% thicker wear tube on the outer curve than the inner curve.
- Less vibrations.
- Lower noise levels.

mm D	ID inch	Wear tube	Working pressure Mpa	Radius mm	Shank length C
51	2.0	6.0	1.0	153	105
63	2.1/2	7.5	1.0	189	105
76	3.00	7.5	1.0	230	105
90	3.1/2	7.5	1.0	270	130
102	4.00	7.5	1.0	305	150
116	4.1/2	7.5	1.0	350	160
127	5.00	7.5	1.0	380	190
140	5.1/2	7.5	1.0	420	190
152	6.00	7.5	1.0	455	215
204	8.00	9.0	0.5	615	275
254	10.00	9.0	0.5	765	215
305	12.00	9.0	0.5	915	255
355	14.00	10.5	0.5	850	295

## Trellex Coupling

The Trellex Split-Flange Coupling is designed for use with Trellex Hoses and Bends. The coupling doesn't come in contact with the material flowing through the hose, and is thus not exposed to wear. It is manufactured from high-strength aluminium alloy.

The Trellex Coupling consists of two or four identical segments, which are fitted mechanically on the smooth hose. If a segment is lost or damaged, it can be replaced by any other segment of the same size. If a hose has to be replaced, the old coupling is fitted to the new hose.

The coupling does not have to fit any specific pattern on the hose cover. It is simply rotated around the hose until it is aligned with the connecting flange. There is no need to rotate the hose itself.

The coupling is designed for fast, simple fitting.

Neither special tools or skilled personnel are needed. Each coupling is delivered with bolts for the side flanges, square-headed to prevent them from turning.

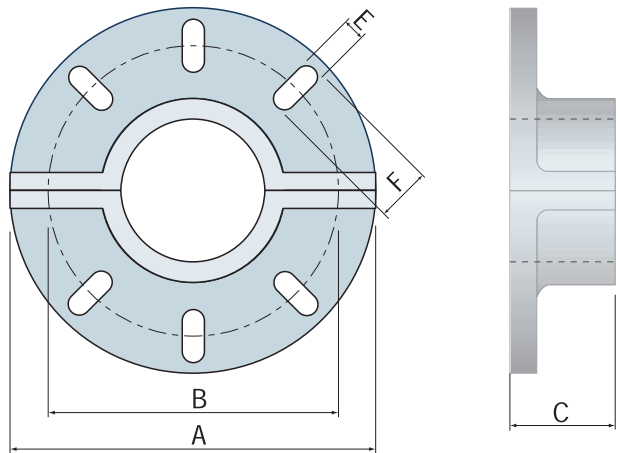
No other bolts are provided.

The Trellex Split-Flange Coupling is compatible with all major flange drilling standards.

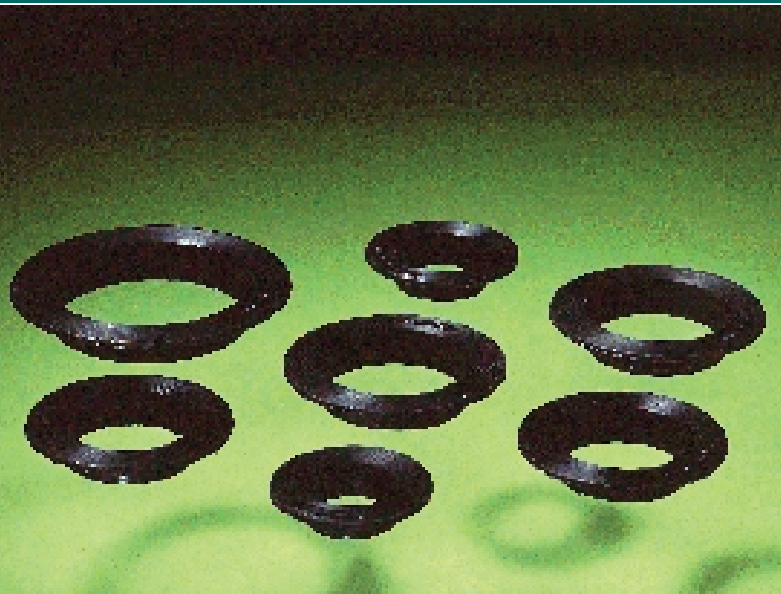
Coupling size	A mm	B mm	C mm	Hole ExF mm	Matches DIN2632 PN10	Flange ANSI B16.1 Class 150
44	165	124	71	18x20	50	2"
51	165	124	91	18x20	50	2"
63	185	146	91	18x20	65	2.5", 3"
76	200	158	91	18x24	80	3"
80	200	158	91	18x24	80	3"
90	220	184	113	18x24	100	3.5", 4"
102	220	184	133	18x24	100	4"
116	250	213	143	23x26	125	5"
127	250	213	165	23x26	125	5"
140	285	238	175	23x27	150	6"
152	285	238	197	23x27	150	6"
180	308	260	217	23x26	-	-
190	343	295	237	23x26	200	8"
204	340	295	257	23x26	200	8"
240	406	355	197	25x31	250	10"
254	405	353	197	25x33	250	10"
305	476	401	237	25x30	300	-
1305	495	424	237	25x40	-	12"
355	530	455	277	27x40	350	-
1355	530	466	277	28x41	-	14"
405	600	521	400	27x51	400	16"
457	634	556	450	27x36	450	-
1457	634	569	450	27x36	-	18"
508	698	621	500	27x44	500	20"
610	820	731	600	30x52	600	24"

### The benefits

- Lower cost, thanks to modular design and reusable coupling.
- Not exposed to wear, since the coupling doesn't come in contact with the transported material.
- Manufactured from high-strength aluminium alloy, gives you low weight.
- Simple installation, No special tools needed.
- Compatible with all major flange drilling standards.







## Trellex Gasket

The tapered Trellex Gasket is designed for use with Trellex Hoses and Bends. Together with the Trellex Coupling, this gasket will give leak-proof, full bore joints.

The Trellex tapered gasket is reinforced with a steel insert, which makes it stiff and allows it to be pushed inside the hose, guided by the same inside bore that you want to match.

To complete one full joint between two hoses, two couplings and two gaskets are required.

When tightened against the connecting flange, the inside tube of the hose will be pressed up against the outside slope of the gasket. The slurry itself will quickly wear the inside of the gasket flush with the hose, leaving a full-bore transition, free of turbulence.

It is the inner diameter of the hose that will correctly position the gasket in the centre of the bore.

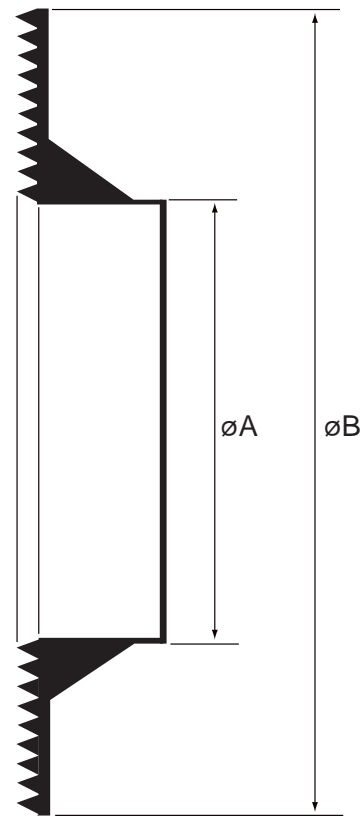
The taper of the gasket will further compensate for the unevenness in the end of a hose when it is cut to exact length onsite.

The ends of the hose do not have to be ground flat as when working with ordinary, flat rubber gaskets.

The fluting of the front of the gasket will eliminate any leakage.

### The benefits

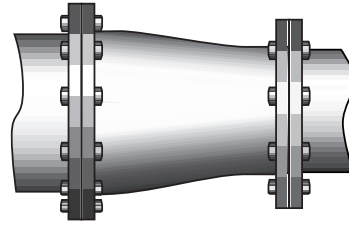
- Steel reinforced, to be able to receive the same inside bore as the hose when pushed in to the hose.
- Full-bore transition, free of turbulence.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- The taper compensates for any unevenness at the hose ends.
- Fluting pattern at the front eliminates leakage.



For hose ID mm	A mm	B mm
44	39	82
51	49	89
63	58	99
76	74	118
80	78	122
90	85	132
102	98	144
116	113	160
127	123	175
140	134	188
152	148	202
180	174	232
190	184	244
204	198	258
240	234	302
254	248	314
305	298	365
355	350	415
405	400	466
457	452	520
508	503	578
610	605	684

## Trellex Reducer

A reducer provides a transition between pipes or hoses with different diameters to compensate for change in flow rate. Taper of less than  $2 \times 8^\circ$  ensures smooth flow with no turbulence. Short, standard length. Fully flanged for fast, easy replacement. Flanges are steel-reinforced and drilled to all major standards. The thick, smooth-walled wear tube is made from Trellex 40 low durometer natural rubber for extremely long life. The rubber cover has a fabric texture and provides good resistance to wear and weather.



### The benefits

- All rubber construction, dampens the vibrations from the pump.
- Taper of less than  $2 \times 8^\circ$  ensures smooth flow with no turbulence.
- Fully flanged for fast and easy replacement.
- Drilled to all major flange standards.

ID/id mm	Working pressure Mpa	Vacuum %	Length mm
102/63	1.0	90	380
102/76	1.0	90	380
127/102	1.0	90	380
152/102	1.0	90	380
204/127	1.0	90	380
204/152	1.0	90	380
254/204	0.5	50	380
305/204	0.5	50	380
305/254	0.5	50	380
355/254	0.5	50	380
355/305	0.5	50	380

## Trellex Branch Pipes

The Trellex Branch pipe is fabricated from rolled and welded steel sheets, lined with 10mm thick hot- vulcanized Trellex 40 rubber.

The lining is drawn over the flange faces.

The cover surface is corrosion-painted. Flanges to all major standards.



### The benefits

- Long service life ensured by thick, smooth-walled lining of Trellex 40.
- Fully flanged.
- Drilled to all major flange standards.
- Corrosion painted outer surface.

ID mm	A mm	B mm	Bolt hole diameter		
			DIN mm	ANSI inch	BS inch
102	122	209	180	7.50	7.00
127	145	247	210	8.50	8.25
152	166	282	240	9.50	9.25
204	212	358	295	11.75	11.50
254	259	437	350	14.25	14.00
305	303	509	400	17.00	16.00