

straub 
2023 
the original



straub couplings

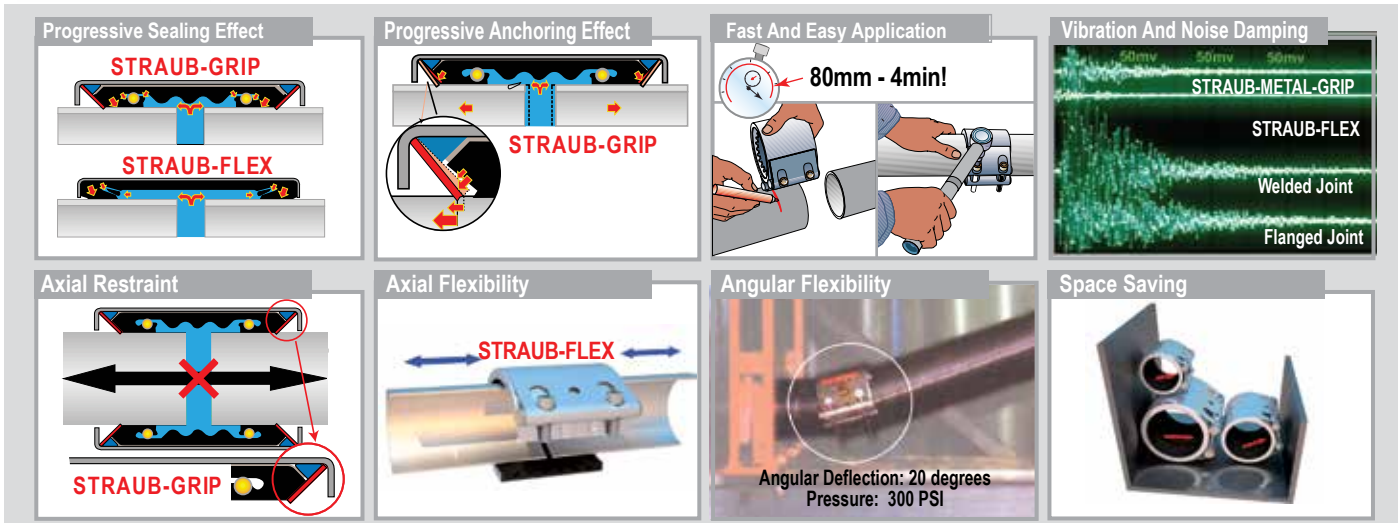
Trusted Pipe-Joining Solutions For Over Fifty Years

HI-PERFORMANCE PIPE COUPLINGS



The dependable plain end coupling system that **SAVES TIME, MONEY and SPACE**. The STRAUB coupling is a patented mechanical coupling system for joining plain end pipe in sizes 3/4" through 144".

Over 180 approvals worldwide.



FEATURES & BENEFITS

Universal use

- Suitable for almost any pipe material
- Joins pipes of the same or dissimilar materials
- Suitable for pressure, vacuum or suction lines
- Leakproof joint, due to the pressure responsive gasket
- Quick and simple repairs to existing pipe lines
- Stab fit design - no need to disassemble, ready to install

Economical

- Pre-assembled, stab-fit design ensures simple, rapid installation
- STRAUB couplings join virtually any plain end pipe or tube including steel, stainless steel, ductile iron, HDPE, FRP, PVC, CPVC, C900, CPP, concrete pipe, copper, and CuNi.
- Simply cut pipes to length, center coupling and tighten bolts
- Suitable for thick or thin wall pipes
- Use a torque wrench - no other special tools or welding required

Reliable

- Stress-free, flexible pipe joint
- Compensates for axial movement and angular deflection
- Pressure-resistant and leak-proof even with inaccurate pipe assembly
- Dampens water-hammer, vibration and structure-borne noise
- Stab fit, no need to disassemble and never needs retightening
- Low torque required
- Seal is reinforced by increasing line pressure, ensuring long life

Easy Handling

- Detachable and re-usable, maintenance free
- Eases pipe alignment problems
- Simple and quick to install, reduces installation costs
- No heat or fire hazard, can be fitted in fire risk or confined spaces without special equipment or permits
- Seals on rough pipe surfaces
- No lubrication of gasket is required
- Low torque/compression ensures long service life

DURABLE

- Progressive sealing effect, higher pressures reinforce the seal
- Axial restraint versions available, prevents pipe pull-out
- Corrosion resistant; all stainless steel construction
- Good resistance to temperature and chemicals
- Reusable

SPACE-SAVING

- Compact design, saves space and allows pipes to be compactly installed
- Allows the use of low profile pipe insulation
- Easy accessed in confined areas, and can be rotated for easy access to bolts
- Light weight



All STRAUB couplings require correct use of a torque wrench for safe and proper installation. STRAUB couplings must be torqued to the specified value printed on each individual coupling. Failure to do so can result in injury or death.

WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.

STRAUB CONCEPT - TWO TYPES OF COUPLINGS



STRAUB-METAL-GRIP & STRAUB-GRIP

PULL OUT RESISTANT

STRAUB-GRIP and STRAUB-METAL-GRIP couplings join plain end pipes with axial restraint.

STRAUB-GRIP and STRAUB-METAL-GRIP provide pull out resistance in excess of the coupling's rated working pressure. Whether for pressure or suction lines, thick or thin wall pipe, the STRAUB-GRIP and STRAUB-METAL-GRIP couplings are installed quickly, safely and economically. Due to the unique design of the anchor ring, as internal pressure increases, the anchoring effect is progressively increased. The engagement of the teeth into the pipe's outside surfaces provides for electrical conductivity across the pipe joint.



STRAUB-GRIP

PAGE 6, 13

Axial-Restraint Pipe Coupling



STRAUB-METAL-GRIP

PAGE 7

Axial-Restraint Pipe Coupling



STRAUB-FLEX & STRAUB-OPEN-FLEX

NOT PULL OUT RESISTANT

The STRAUB-FLEX coupling will join virtually any plain end pipe, including pressure or suction lines, thick or thin wall pipe.

STRAUB-FLEX coupling is installed quickly, safely and economically. STRAUB-FLEX couplings can accommodate pipe system expansion and contraction movement as well as angular deflection.

Both STRAUB-FLEX & STRAUB-OPEN-FLEX couplings require the pipes to be axially restrained and are an economical alternative to rubber and metal expansion joints.

STRAUB-OPEN-FLEX is a split coupling version of STRAUB-FLEX, offering all the STRAUB-FLEX benefits, plus being able to make repairs to in service pipe lines. With the coupling, leaks due to faulty weld joints, pitting holes and short cracks can be temporarily or permanently repaired with minimal down time

The split gasket design can be wrapped around the pipe and installed without pipe disassembly. Assembly tools are available to ease the installation of the STRAUB-OPEN-FLEX coupling. When used to join pipe ends the STRAUB-OPEN-FLEX coupling provides the same flexibility features as the STRAUB-FLEX design.



STRAUB-FLEX

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Non-Axial Restraint Pipe Coupling



STRAUB-OPEN-FLEX

PAGE 8-10

Non-Axial Restraint Pipe Coupling

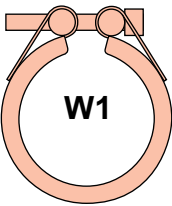
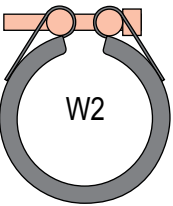

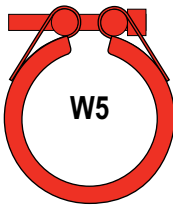


STRAUB-OPEN-FLEX 3.5 & 4

PAGE 11

Non-Axial Restraint Pipe Coupling

MATERIAL SPECIFICATIONS

Components	COUPLING TYPES							
								
	W1		W2		W4		W5*	
	DIN	AISI	DIN	AISI	DIN	AISI	DIN	AISI
Casing	1.0570, galvanized	1024	1.4301/1.4404	304/316L	1.4301	304	1.4571	316 Ti/316L
Bolts	1.7220	4135	1.7220	4135	1.4404/1.4435	316L	1.4404/1.4435	316L
Bars	1.0737 galvanized	12L14	1.0737, galvanized	12L14	1.4404/1.4435	316L	1.4404/1.4435	316L
Anchoring ring	1.43110	301	1.4310/1.4301	301	1.4310/1.4301	301	1.4310	301
Strip insert (option)	1.44350	316L	1.4435	316L	1.4435	316L	1.4435	316L

* Lean Duplex casings available for some product types.

Optional strip insert - AISI Type 316L Stainless Steel, HDPE or PVDF.

For casing designations refer to the size and pressure indicated in the STRAUB-FLEX and STRAUB-OPEN-FLEX selection chart.

All materials meets ANSI / AISI standards.

GASKET SPECIFICATIONS

GASKET MATERIAL:

EPDM -4° to +212°F*

Nitrile -4° to +180°F

HNBR -4° to +257°F

FPM/FKM -4° to +356°F
Fluoroelastomer

GENERAL SERVICE APPLICATION:

Water, dilute acids, alkalies, salts, and many chemical services not involving hydrocarbons, oils or gases. Excellent oxidation resistance.

Note: NOT FOR USE WITH HYDROCARBONS

Note: For **Air Service** maximum temperature is +250°F

Exceptions for higher than 250°F air service can be approved on a case by case basis.

Petroleum products, vegetable oils, mineral oils and air contaminated with petroleum oils.

H-NBR available for higher temperature applications. Water, Gas, Oil, Fuel and other Hydrocarbons (on request only, quantity sensitive)

High temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants. (Not available in all sizes/types).

* Maximum temperature limit is 212°F (100°C) with EPDM gasket material. Higher temperature limits may be allowed subject to specific factory approval.
For specific chemical recommendations, please consult your Straub Professional.

HOW TO ORDER (Example)

Product Designation	Nominal Pipe Size Or Pipe O.D.	Pipe Designation	Lock Parts	Gasket Material	Optional Strip Insert
STRAUB-GRIP	10"	IPS	Stainless Steel "SS"	E - EPDM	SI
STRAUB-METAL-GRIP		CTS	Galvanized "G"	N - Nitrile	PVDF
STRAUB-FLEX + (casing type)		AWWA		V - Viton®	T
STRAUB-OPEN-FLEX + (casing type)		Other (Supply actual Pipe OD)			

Example: STRAUB-GRIP - 10-IPS - SS - E - S -- Represents **STRAUB-GRIP** style coupling for **10" IPS** pipe with **stainless steel** lock parts, an **EPDM** gasket and the optional **stainless strip insert**.



INTERNATIONAL CERTIFICATION



Some of the approvals for STRAUB couplings are shown above. STRAUB couplings are approved and listed by a large number of national and international agencies in various industries, including water engineering, fire protection, mining, shipbuilding & offshore, gas, petrochemical and general industry. Contact STRAUB for details.

STRAUB is an ISO 9001 certified manufacturing facility and 14001 certified.

STRAUB Couplings meet or exceed the requirements of ASTM 1476 & ISO/NP-15837/ 15838 & ANSI / AWWA C227-22 and Performance Coupling is ISO 9001:2015 compliant

Note: AIS exemption/compliance available upon request

INDUSTRIES SERVED

- Shipbuilding
- Locomotives
- Water & Wastewater
- Ultra - Filtration
- Gas Turbines
- Compressors
- Engine Manufacturing
- Landfills
- Water filtration
- Power generation
- Aeration air

COUPLING CHART NOTES

1	2		3	4		5		6		7	8
Nominal IPS <i>Inches</i>	PIPE OUTSIDE DIAMETER		Working Pressure <i>psi/bar</i>	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS		MAXIMUM DISTANCE BETWEEN PIPE ENDS (Rmax.)		Torque Rate <i>Ft.lbs./Nm</i>	Approx. Weight Each <i>Lbs./kg</i>
	Actual	OD Range +/-		B	C	DV	X	Without	With		
	<i>In./mm</i>	<i>In./mm</i>		<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>		

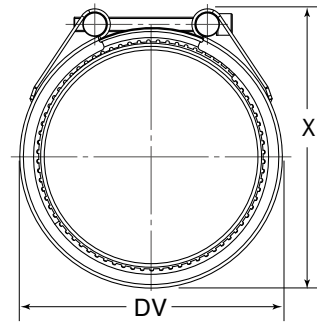
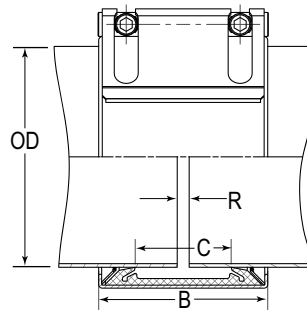
- STRAUB Couplings are identified by either the nominal IPS pipe size, CTS tube size, or AWWA ductile iron pipe size in inches, or the pipe/tube OD in inches and millimeters.
- Nominal outside pipe diameter or tube that coupling will fit.
- Maximum line pressure, including surge, to which the pipe joint should be subjected. Note: For a one-time field test the maximum joint working pressure may be increased to 1^{1/2} times the figure shown.
- Coupling dimensions for reference purposes only.
- The DV and X assembled dimensions provided for reference.
- Maximum allowable distance between pipe ends when assembled (with or without strip inserts).
- Required Torque Rate. This is also printed on all couplings. Torque rate is suitable for all recommended pipe materials
- Weight of complete coupling.

Note: For STRAUB-GRIP and STRAUB-METAL-GRIP couplings, an additional pressure rating column is shown. This is for applications that require authorization by Marine Approval Agencies such as Lloyds, ABS, DNV, etc.)



**Axial-Restraint Pipe Coupling
For IPS Outside Diameter Pipe**

STRAUB-GRIP COUPLING



Coupling Type	Nominal IPS Inches	PIPE OUTSIDE DIAMETER		Working Pressure psi/bar	Agency Approved Pressure* psi/bar	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS		MAXIMUM DISTANCE BETWEEN PIPE ENDS R (max.)		Torque Rate	Approx. Weight Each Lbs./kg
		Actual In./mm	OD Range In./mm			B In./mm	C In./mm	DV In./mm	X In./mm	Without Strip insert In./mm	With Strip insert In./mm		
W5 Only	3/4	1.050 26.9	1.04 - 1.08 26.4 - 27.4	841 58	232 16.0	1.8 46	0.7 18	1.73 44	2.2 56	0.2 5	0.4 10		.88 0.4
	1	1.315 33.7	1.31 - 1.35 33.2 - 34.2	565 39	232 16.0	1.8 46	0.7 18	2 51	2.6 65	0.2 5	0.4 10		1.10 0.5
	1 1/4	1.660 42.4	1.65 - 1.69 41.9 - 42.9	478 33	232 16.0	1.8 46.5	0.7 18	2.3 60	2.9 74	0.2 5	0.4 10		1.10 0.5
	1 1/2	1.900 48.3	1.88 - 1.92 47.7 - 48.7	406 28	232 16.0	1.8 46	0.7 18	2.5 65	3.20 81	0.2 5	0.4 10		1.10 0.5
	2	2.375 60.3	2.35 - 2.40 59.6 - 60.9	333 23	232 16.0	2.5 65	0.9 24	3.03 77	3.70 93	0.2 5	0.6 15		1.32 0.6
	2 1/2	2.875 73.0	2.85 - 2.90 72.3 - 73.6	304 21	232 16.0	2.5 65	0.9 24	3.5 90	4.2 107	0.2 5	0.6 15		1.54 0.7
	3	3.500 88.9	3.46 - 3.54 87.8 - 89.9	377 26	232 16.0	3.9 100	1.5 40	4.4 112	5.3 134	0.2 5	1.0 25		3.97 1.8
	3 1/2	4.000 101.6	3.96 - 4.04 100.5 - 102.6	333 23	232 16.0	3.9 100	1.5 40	4.9 125	5.7 146	0.4 10	1.0 25		4.41 2.0
	4	4.500 114.3	4.46 - 4.54 113.2 - 115.3	319 22	232 16.0	3.9 100	1.5 40	5.5 138	6.3 160	0.4 10	1 25		4.63 2.1
	5	5.500 139.7	5.51 - 5.62 139.9 - 142.7	290 20	232 16.0	4.5 115	2.1 53	6.5 166	7.4 189	0.4 10	1.2 30		7.72 3.5
	6	6.625 168.3	6.56 - 6.69 166.6 - 169.9	232 16	188 13.0	4.5 115	2.1 53	7.6 195	8.5 217	0.4 10	1.2 30		8.82 4.0
	8	8.625 219.1	8.54 - 8.71 216.9 - 221.2	232 16	145 10.0	5.6 142	3.1 79	9.8 249	10.6 269	0.4 10	1.2 35		13.0 5.9
	10	10.750 273.0	10.65 - 10.85 270.5 - 275.5	100 7	67 4.6	5.5 140	3.1 79	11.9 302	12.8 326	0.4 10	1.4 35		12.7 5.8
W2 or W5**	12	12.750 323.9	12.62 - 12.87 320.5 - 326.8	70 5	52 3.6	5.5 140	3.1 79	13.9 353	14.8 377	0.4 10	1.4 35		14.3 6.5
	14	14.000 355.6	13.86 - 14.13 352.0 - 358.9	150 10	45 3.1	5.5 140	3.1 79	15.2 386	15.9 405	0.4 10	1.4 35		15.4 7.0
	16	16.000 406.4	15.85 - 16.16 402.5 - 410.4	105 7	35 2.4	5.5 140	3.1 79	17.1 434	17.9 455	0.4 10	1.4 35		16.9 7.7
	18	18.00 457.2	17.81 - 18.17 452.3 - 461.5	70 5		5.5 140	3.1 79	19.2 488	19.9 506	0.4 10	1.4 35		18.5 8.4
	20	20.00 508.0	19.82 - 20.18 503.4 - 512.5	60 4		5.5 140	3.1 79	21.2 538	21.9 557	0.4 10	1.4 35		20.2 9.2
	22	22.00 558.8	21.83 - 22.19 554.4 - 563.6	45 3		5.5 140	3.1 79	23.2 589	23.9 608	0.4 10	1.4 35		21.8 9.9
	24	24.00 609.6	23.82 - 24.17 605.0 - 613.9	30 2		5.5 140	3.1 79	25.2 640	25.9 659	0.4 10	1.4 35		23.3 10.6
	28	28.00 711.2	27.83 - 28.15 707.0 - 715.0	15 1		5.5 140	3.1 79	29.2 742	29.9 761	0.4 10	1.4 35		26.9 12.2

See label on coupling for proper torque rates

*Agency approved pressures are for applications that require authorization of Classification Societies, such as Marine Approval Bodies.

Other sizes available upon request.

** Lean Duplex casings: 355.6 - 711.2



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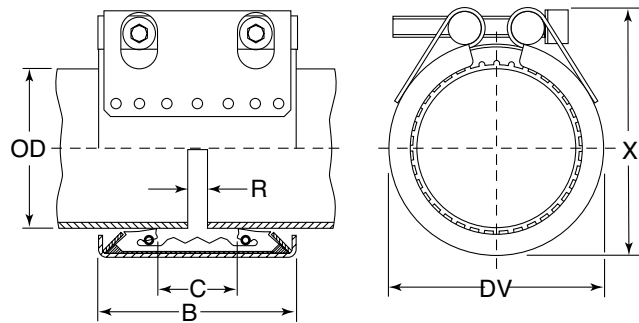
WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.



STRAUB-METAL-GRIP COUPLING



**Axial-Restraint Pipe Coupling
For IPS Outside Diameter Pipe**



STRAUB-METAL GRIP

Coupling Type	PIPE OUTSIDE DIAMETER					MAXIMUM DISTANCE BETWEEN PIPE ENDS							
	Nominal IPS	OD Range +/-		Working Pressure	Agency Approved Pressure*	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS		R (max.)		Torque Rate	Approx. Weight Each
		Actual				B	C	DV	X	Without Strip insert	With		
Inches	In./mm	In./mm	psi/bar	psi/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Ft.lbs./Nm	Lbs./kg	
W2 or W4 Only	1	1.315 33.7	1.31 - 1.35 33.2 - 34.2	900 62.1	232 16.0	2.6 66	0.7 18	2.0 52	2.5 63	0.2 5	0.6 15	7.5 10	0.7 0.3
	1¼	1.660 42.4	1.65 - 1.69 41.9 - 42.9	770 53.1	232 16.0	2.4 61	0.8 20	2.4 62	3.0 76	0.2 5	0.6 15	11 15	1.1 0.5
	1½	1.900 48.3	1.88 - 1.92 47.7 - 48.7	640 44.1	232 16.0	2.4 61	0.8 20	2.7 68	3.3 83	0.2 5	0.6 15	11 15	1.1 0.5
	2	2.375 60.3	2.35 - 2.40 59.6 - 60.9	540 37.2	232 16.0	3 76	1.5 38	3.2 82	3.7 95	0.4 10	1.0 25	15 20	1.7 0.8
	3	3.500 88.9	3.46 - 3.54 87.8 - 89.9	540 37.2	232 16.0	3.7 94	1.5 38	4.6 117	4.8 123	0.4 10	1.0 25	26 35	3.2 1.5
	4	4.500 114.3	4.46 - 4.54 113.2 - 115.3	490 33.8	232 16.0	3.7 94	1.5 38	5.5 139	6.2 157	0.4 10	1.0 25	26 35	3.8 1.7
	5	5.500 139.7	5.44 - 5.56 138.7 - 141.2	470 32.4	232 16.0	4.3 109	1.7 43	6.6 168	7.5 191	0.6 15	1.4 36	45 60	7.8 3.5
	6	6.625 168.3	6.56 - 6.69 166.6 - 169.9	420 28.8	232 16.0	4.3 109	1.7 43	7.9 200	8.7 220	0.6 15	1.4 36	45 60	8.8 4.0
	8	8.625 219.1	8.54 - 8.71 216.9 - 221.2	380 26.2	232 16.0	5.9 150	2.4 61	10.2 259	11.3 288	0.6 15	1.4 36	75 100	20.6 9.4
W1 only	10	10.750 273.0	10.65 - 10.85 270.5 - 275.5	300 20.7	174 12.0	5.8 147	2.6 66	12.5 318	14.1 359	0.6 15	1.4 36	135 180	33.5 15.2
	12	12.750 323.9	12.62 - 12.87 320.5 - 326.8	250 17.2	145 10.0	5.8 147	2.6 66	14.5 369	16.2 411	0.6 15	1.4 36	170 230	37.8 17.2
	14	14.000 355.6	13.86 - 14.13 352.0 - 358.9	250 17.2	116 8.0	5.8 147	2.6 66	14.5 369	17.5 444	0.6 15	1.4 36	170 230	40.3 18.3
	16	16.000 406.4	15.85 - 16.16 402.5 - 410.4	200 13.8	116 8.0	5.8 147	2.6 66	17.8 451	19.4 494	0.6 15	1.4 36	170 230	54.3 24.7
	18	18.000 457.2	17.81 - 18.19 452.3 - 462.0	120 8.3	94 6.4	5.8 147	2.6 66	19.8 502	21.5 546	0.6 15	1.4 36	185 250	59.4 27.0
	20	20.000 508.0	19.80 - 20.20 502.9 - 513.0	90 6.2	80 5.5	5.8 147	2.6 66	21.8 553	23.5 598	0.6 15	1.4 36	185 250	64.2 29.2
	24	24.000 609.6	23.80 - 24.19 604.5 - 614.4	70 4.9	65 4.4	5.8 147	2.6 66	25.8 655	27.6 701	0.6 15	1.4 36	221 300	74.2 33.7

*Agency approved pressures are for applications that require authorization of Classification Societies, such as Marine Approval Bodies

Other sizes available upon request.



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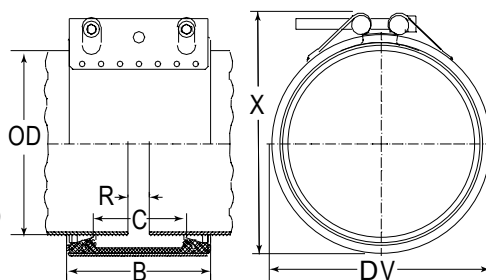


STRAUB-OPEN-FLEX-1L

Non-Axial-Restraint Pipe Coupling
For IPS Outside Diameter Pipe

STRAUB-FLEX 1L & STRAUB-OPEN-FLEX 1L COUPLING

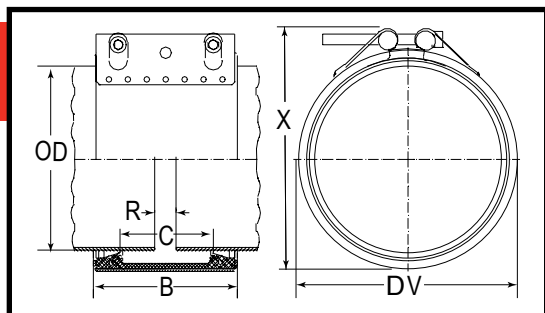
- Open-Flex Meets AWWA C-230 & C-227
- Pipes must be properly anchored and supported.
- STRAUB-FLEX & STRAUB-OPEN-FLEX Couplings are NOT pull-out resistant.
- STRAUB-STRONG Special Restraint System. (Info and pricing available on request.)
- OPEN-FLEX 1L in hinged style only
- W2 or W5 for FLEX



STRAUB-FLEX 1L & STRAUB-OPEN-FLEX 1L

Nominal IPS Inches	PIPE OUTSIDE DIAMETER		Working Pressure psi/bar	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS		MAX. GAP PIPE ENDS (Rmax.)		Approx. Weight Each Lbs./kg
	Actual In./mm	OD Range +/- In./mm		B In./mm	C In./mm	DV In./mm	X In./mm	Without Strip insert In./mm	With Strip insert In./mm	
1½	1.900	1.85 - 1.95	363	3.0	1.4	2.8	3.3	0.2	0.6	1.1
	48.3	46.9 - 49.5	25	76	35	70	89	5	15	0.5
2	2.375	2.32 - 2.42	232	3.0	1.4	3.2	3.7	0.2	0.6	1.3
	60.3	58.9 - 61.4	16.0	76	35	82	101	5	15	0.6
2½	2.875	2.81 - 2.93	232	3.0	1.4	3.2	3.7	0.2	1.0	1.76
	73.0	71.3 - 74.4	16.0	76	35	95	119	5	25	.8
3	3.500	3.44 - 3.56	232	3.7	2.0	4.4	4.9	0.2	1.0	2.1
	88.9	87.3 - 90.4	16.0	94	51	111	136	5	25	1.0
4	4.500	4.43 - 4.57	232	3.7	2.0	5.4	5.9	0.2	1.0	2.3
	114.3	112.5 - 116.0	16.0	94	51	136	162	5	25	1.1
5	5.500	5.45 - 5.57	232	4.2	2.4	6.4	7.1	0.2	1.4	3.1
	139.7	138 - 141.5	16.0	107	61	162	192	5	35	1.4
6	6.625	6.54 - 6.71	232	4.2	2.4	7.5	8.1	0.2	1.4	3.7
	168.3	166.1 - 170.4	16.0	107	61	190	225	5	35	1.7

Other sizes available upon request.



STRAUB-FLEX & STRAUB-OPEN-FLEX COUPLING

Coupling Dimensions

STRAUB-FLEX 2 & STRAUB-OPEN-FLEX 2 Dimensions

STRAUB-FLEX or STRAUB- OPEN-FLEX TYPE	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS DV	Maximum Distance Between Pipe Ends (R _{max})	
				Without	With
	B	C		Strip insert	
	In./mm	In./mm		In./mm	In./mm
2L	5.4	3.6	OD+.91	0.39	1.38
	138	91	OD+23	10	35
2LS	5.5	3.6	OD+.95	0.39	1.38
	140	91	OD+24	10	35
2LU	5.5	3.6	OD+.95	0.39	1.38
	141	91	OD+24	10	35
2H	5.6	3.6	OD+1.02	0.39	1.38
	142	91	OD+26	10	35
2XS	5.8	3.6	OD+1.26	0.39	1.38
	148	91	OD+32	10	35

W1, W2, or W5, See Page 4 for details.

OPEN-FLEX 2 not available in hinged style.

2LV version in lean duplex available. Price on request only.

STRAUB-FLEX 3 & STRAUB-OPEN-FLEX 3 Dimensions

STRAUB-FLEX or STRAUB- OPEN-FLEX TYPE	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS DV	Maximum Distance Between Pipe Ends (R _{max.})	
	B	C		Without Strip insert	With
In./mm	In./mm	In./mm	In./mm	In./mm	
3L	8.3	5.0	OD+1.42	0.59	2.36
	210	127	OD+36	15	60
3LS	8.3	5.0	OD+1.46	0.59	2.36
	210	127	OD+37	15	60
3LU	8.4	5.0	OD+1.50	0.59	2.36
	213.4	127	OD+38	15	60
3H	8.35	5.0	OD+1.5	0.59	2.36
	212	127	OD+38	15	60
3X	8.58	5.0	OD+1.73	0.59	2.36
	218	127	OD+44	15	60

W1, W2, or W5, See Page 4 for details.

OPEN-FLEX 3 not available in hinged style.

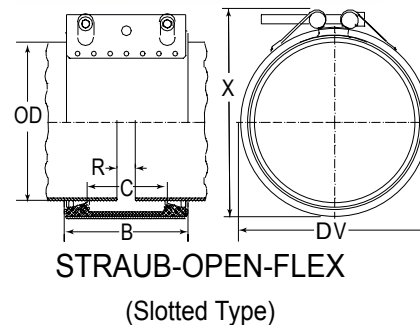
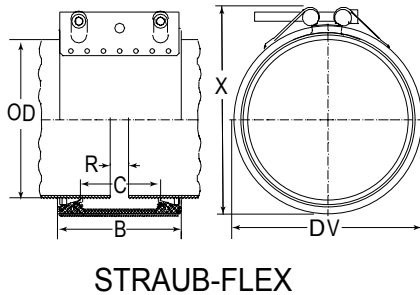
2LV version in lean duplex available. Price on request only.



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WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.

STRAUB-FLEX 2 & STRAUB-OPEN-FLEX 2 COUPLING



STRAUB-FLEX 2 & STRAUB-OPEN-FLEX 2 Selection Chart

Nominal IPS Pipe Size (Inches)	Pipe Outside Diameter In./mm	2L Working Pressure psi/bar	2LS Working Pressure psi/bar	2LU Working Pressure psi/bar	2H Working Pressure psi/bar	2XS Working Pressure psi/bar
6	6.625 168.3	189 13	225 17.6	387 26.7		
8	8.625 219.1	145 10	198 13.5	367 25		
10	10.750 273.1	116 8	161 11	323 22	367 25	
12	12.750 323.9	102 7	132 9.5	264 18.5	367 25	
14	14.000 355.6	87 6	117 8.5	249 17	367 25	
16	16.000 406.4	80 5.5	102 7.5	220 15	323 22	367 25
18	18.000 457.2	73 5	94 6.5	191 13	279 19	367 25
20	20.000 508.0	65 4.5	88 6	176 12	249 17	367 25
24	24.000 609.6	51 3.5	73 5	147 10	205 14	367 25
28	28.000 711.2		58 4	117 8	176 12	367 25
30	30.000 762.0		58 4	117 8	176 12	338 23
32	32.000 812.8		51 3.5	110 7.5	161 11	323 22
36	36.000 914.4		51 3.5	95 6.5	147 10	294 20
42	42.000 1066.8		44 3	80 5.5	147 10	249 17
48	48.000 1219.2		36 2.5	73 5	102 7	220 15

For pressure ratings see **Selection Charts**.

2L, 2LS, 2LU: W2 & W5

2H, 2XS: W1

The selection charts are used to select the proper type of STRAUB-FLEX or STRAUB-OPEN-FLEX coupling for the application pressure. Separate charts are used for the TYPE 2 and 3 designs.

For complete dimensional data, see Page 10 or please consult the factory, STRAUB Technical Manual, or an authorized STRAUB Distributor.

Other sizes available upon request.

*STRAUB-FLEX is also available in a two-piece construction

- useful for very tight spaces and for ease of handling.

STRAUB-OPEN-FLEX 2 couplings are available in two different styles depending on model and size:

- Slotted Casing
- 2-Piece Execution

STRAUB-OPEN-FLEX gaskets are cut and riveted to casing.

Please consult your STRAUB professional for more information

Non-Axial-Restraint Pipe Coupling For IPS Outside Diameter Pipe

- Pipes must be properly anchored and supported.
- STRAUB-FLEX & STRAUB-OPEN-FLEX Couplings are NOT pull-out resistant.
- STRAUB-STRONG Special Restraint System. (Info and pricing available on request.)
- STRAUB-OPEN-FLEX Installation tool available



All STRAUB couplings require correct use of a torque wrench for safe and proper installation. STRAUB couplings must be torqued to the specified value printed on each individual coupling. Failure to do so can result in injury or death.

WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.

STRAUB-FLEX 3 & STRAUB-OPEN-FLEX 3 COUPLING

For IPS Outside Diameter Pipe



STRAUB-FLEX-3
STRAUB-OPEN-FLEX

Non-Axial-Restraint Pipe Coupling
For IPS Outside Diameter Pipe

- Pipes must be properly anchored and supported.
- STRAUB-FLEX & STRAUB-OPEN-FLEX Couplings are **NOT** pull-out resistant.
- STRAUB-STRONG Special Restraint System. (Info and pricing available on request.)

STRAUB-FLEX 3 & STRAUB-OPEN-FLEX 3 Selection Chart

Nominal IPS Pipe Size (Inches)	Diameter In./mm	3L Working Pressure psi/bar	3LS Working Pressure psi/bar	3LU Working Pressure psi/bar	3H Working Pressure psi/bar	3X Working Pressure psi/bar
8	8.63 219.1	150 10.3	187 12.9			
10	10.75 273.1	150 10.3	187 12.9			
12	12.750 323.9	143 9.9	189 13.0	363 25.0		
14	14.000 355.6	119 8.2	160 11.0	363 25.0		
16	16.000 406.4	107 7.4	140 9.7	328 22.6	363 25.0	
18	18.000 457.2	95 6.6	125 8.6	292 20.1	363 25.0	
20	20.000 508.0	85 5.9	112 7.7	263 18.1	363 25.0	
24	24.000 609.6	71 4.9	94 7.0	203 14	251 17.3	363 25.0
28	28.000 711.2	59 4.1	81 5.6	174 12	218 15.0	363 25.0
30	30.000 762.0	55 3.8	74 5.1	160 11	203 14.0	363 25.0
32	32.000 812.8	55 3.8	71 4.9	152 10.5	189 13.0	363 25.0
36	36.000 914.4	46 3.2	64 4.4	123 8.5	187 11.5	334 23.0
42	42.000 1066.8	39 2.7	54 3.7	107 7.3	145 10.0	261 18.0
48	48.000 1219.2	34 2.3	51 3.5	94 6.5	123 8.5	247 17.0
54	54.000 1371.6	30 2.1	42 2.9	81 5.5	113 7.5	223 15.4
60	60.000 1524.0	26 1.8	36 2.5	73 5.0	102 7.0	203 14.0
66	66.000 1676.4	22 1.5	36 2.4	60 4.1	89 6.0	182 12.5
72	72.000 1828.8	20 1.3	29 2.0	51 3.5	80 5.5	160 11.0

3L, 3LS, 3LU: W2 & W5
3H, 3X: W1

For complete dimensional data, see selection chart or consult the factory, STRAUB Technical Manual, or an authorized STRAUB Distributor.

STRAUB-FLEX-3 & STRAUB-OPEN FLEX-3 are designed with 3-BOLTS

Other sizes available upon request.

STRAUB-OPEN-FLEX 3 couplings are available in two different styles depending on model and size:

- Slotted Casing
- 2-Piece Construction

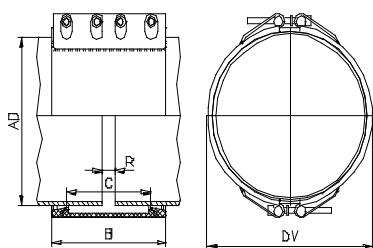
OPEN-FLEX gaskets are cut and riveted to casing

Please consult your STRAUB professional for more information



All STRAUB couplings require correct use of a torque wrench for safe and proper installation. STRAUB couplings must be torqued to the specified value printed on each individual coupling. Failure to do so can result in injury or death.

WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.



STRAUB-FLEX-3.5
STRAUB-OPEN-FLEX-3.5

Non-Axial-Restraint Pipe Coupling For IPS Outside Diameter Pipe

DV = Outside diameter of assembled pipe joint (mm) = OD + 38mm

B = Width of the pipe joint (mm)

FLEX 3.5LU = 310mm

FLEX 3.5H = 311mm

C = Distance between sealing lips = 227mm

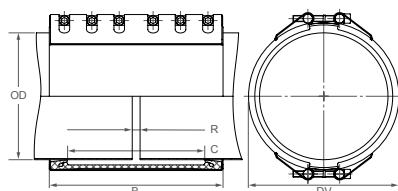
Rmax. = Distance between pipe ends

Rmax. with strip insert = 120mm

Rmax. without strip insert = 20mm

- Pipes must be properly anchored and supported.
- STRAUB-FLEX 3.5 & STRAUB-FLEX 4 Couplings are **NOT** pull-out resistant.
- STRAUB-STRONG Special Restraint System. (Info and pricing available on request.)

Other sizes available upon request.



STRAUB-FLEX-3.5
STRAUB-OPEN-FLEX-3.5

DV = Outside diameter of the assembled pipe joint (mm) = OD + 48 mm

B = Width of the pipe joint (mm)

FLEX 4LU = 444 mm

FLEX 4H = 445 mm

C = Distance between sealing lips = 350 mm

Rmax. = Distance between pipe ends

Rmax. with strip insert = 200mm

Rmax. without strip insert = 20mm

STRAUB-FLEX 3.5 & 4, STRAUB-OPEN-FLEX 3.5 & 4 COUPLING

NEW PRODUCTS: CONSULT FACTORY FOR COUPLING & FITTING TOLERANCES

1"= 25.4mm
1 bar=14.7 psi

STRAUB-FLEX 3.5 & STRAUB-OPEN-FLEX 3.5 Selection Chart

Pipe OD (mm)	Clamping range (mm)	Working Pressure PS FLEX 3.5		Torque rate FLEX 3.5		Locking bolts FLEX 3.5	
		LU (bar)	H (bar)	LU (Nm)	H (Nm)	LU	H
323.9	320 - 327	18	25	30	30		
355.6	352 - 359	17	25	30	30		
406.4	403 - 409	15	22	30	30		
457.2	454 - 460	13	21	30	30		
508.0	505 - 512	12	20	30	40		
558.8	555 - 562	11	19	40	40		
609.6	606 - 613	10	17	40	40		
655.0	652 - 658	9	16	40	40		
711.2	707 - 715	9	15	40	40		
762.0	758 - 766	8	14	40	50	4 x M16 with socket head 14 mms	4 x M16 with socket head 14 mm
812.8	809 - 817	8	13	40	50		
914.4	910 - 918	7	12	50	60		
1016.0	1012 - 1020	6	11	50	60	8x M16 for 2 pcs. type	8x M16 for 2 pcs. type
1117.6	1113 - 1122	6	10	60	70		
1219.2	1215 - 1224	5	9	60	70		
1422.4	1418 - 1427	4	8	70	80		
1524.0	1519 - 1529	4	7	80	90		
1625.0	1621 - 1631	4	7	80	100		
1727.2	1722 - 1732	3	6	90	100		
1828.8	1824 - 1834	3	6	90	110		
1930.4	1925 - 1935	3	5	100	110		
2032.0	2027 - 2037	2	5	100	120		

Available for all pipe sizes from 558.8 mm up to 3000.0 mm (larger and smaller ø to special order)

For Both STRAUB-FLEX 3.5 & STRAUB-FLEX 4	Components/Materials	W1 (3.5 H:W1)	W5 (3.5 LU:W5)
	Casing	AISI 1024, hot-dip galv.	AISI 316 Ti
	Screws	AISI 4135**	AISI 316 L
	Bolts	AISI 12L 14, galvanized	AISI 316 L
	Strip insert (option)	AISI 316 L / HDPE	AISI 316 L / HDPE
STRAUB-FLEX 3.5 ONLY	Sealing sleeve EPDM	Temp.: -4° F up to +212°F Medium: all water quality, waste water, air, solids and chemical products	
	Sealing sleeve NBR	Temp.: -4°F up to +180°F Medium: water, gas, oil, fuel and other hydrocarbons	

STRAUB-FLEX 4 & STRAUB-OPEN-FLEX 4 Selection Chart

Pipe OD (mm)	Clamping range (mm)	Working Pressure PS FLEX 4		Torque rate FLEX 4		Locking bolts FLEX 4	
		LU (bar)	H (bar)	LU (Nm)	H (Nm)	LU	H
323.9	320 - 327	18	25	30	60	12 x M20 with socket head	12 x M20 with socket head
609.6	606 - 613	10	14	40	60	17mms	17mm
762.0	758 - 766	8	11	40	80		
1670.0	1666 - 1674	4	5	80	100		

Available for all pipe sizes from 323.9 mm up to 3000.0 mm (larger and smaller ø to special order)

Legend: - W1 - W5 according to DIN Standard 86128 (ASTM F 1476 / F1548, ISO/NP-15837 / 15838).

** Property class 12.9, Dacromet 500 (zinc-chromate with integrated lubricant).

Remarks: - Available in 2 pc. only

- Follow fitting / disassembly instructions.

- Test pressure = 1,5 x working pressure

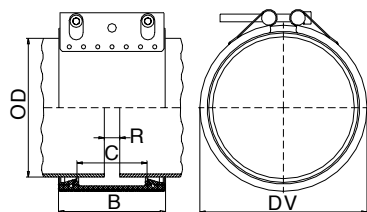
- Admissible maximum axial movement of the pipes DI : 20 mm.

- Strip insert are required when the gap between the pipe ends is excessive, in presence of swelling, at vacuum/depression (suction line), or external pressure. Strip inserts are available, under separate order, at additional costs.

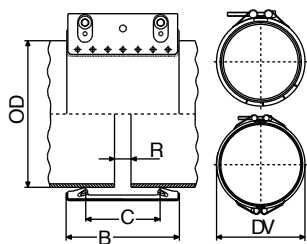


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WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.



STRAUB-FLEX



STRAUB-OPEN-FLEX 2
(2-piece construction shown)

Non-Axial Restraint Pipe Couplings

*W1, W2, or W5 - Consult Factory for details

- Pipes must be properly anchored and supported.
- STRAUB-FLEX & STRAUB-OPEN-FLEX Couplings are NOT pull-out resistant.
- STRAUB-STRONG Special Restraint System. (Info and pricing available on request.)

STRAUB-FLEX & STRAUB-OPEN-FLEX COUPLINGS

For AWWA Ductile Iron Pipe Sizes

STRAUB-FLEX 2 & STRAUB-OPEN-FLEX 2 Selection

Nominal Ductile Iron Pipe Sizes	Pipe Outside Diameter	2L Working Pressure	2LS Working Pressure	2LU Working Pressure	2H Working Pressure	2XS Working Pressure
Inches	In./mm	psi/bar	psi/bar	psi/bar	psi/bar	psi/bar
4	4.800 121.9	232 16.0				
6	6.900 175.3	232 16.0				
8	9.050 229.9	145 10	196 13.5	363 25.0		
10	11.100 281.9	116 8	160 11.0	319 22		
12	13.200 335.3	102 7	145 10.0	280 19.3	290 20.0	
14	15.300 388.6	87 6	123 8.4	230 15.8	290 20.0	
16	17.400 442.0	80 5.5	109 7.5	210 14.4	287 19.8	290 20.0
18	19.500 495.3	73 5	94 6.4	174 12.0	260 17.9	290 20.0
20	21.600 548.6	65 4.5	80 5.5	152 10.4	235 16.2	290 20.0
24	25.800 655.3	51 3.5	70 4.8	145 10	197 13.6	290 20.0
30	32.000 812.8		50 3.4	109 7.5	148 10.2	290 20.0
36	38.300 972.8		45 3.1	85 5.8	125 8.6	290 20.0
42	44.500 1130.3		35 2.4	80 5.5	105 7.2	290 20.0

STRAUB-FLEX 3 & STRAUB-OPEN-FLEX 3 Selection

Nominal Ductile Iron Pipe Sizes	Pipe Outside Diameter	3L Working Pressure	3LS Working Pressure	3LU Working Pressure	3H Working Pressure	3X Working Pressure
(Inches)	In./mm	psi/bar	psi/bar	psi/bar	psi/bar	psi/bar
12	13.200 335.3	143 9.9	189 13.0	363 25.0		
14	15.300 388.6	119 8.2	160 11.0	363 25.0		
16	17.400 442.0	105 7.2	140 9.7	328 22.6	363 25.0	
18	19.500 495.3	95 6.6	123 8.5	292 20.1	363 25.0	
20	21.600 548.6	85 5.9	110 7.6	263 18.1	363 25.0	
24	25.800 655.3	71 4.9	94 7.0	203 14	251 17.3	363 25.0
30	32.000 812.8	55 3.8	74 5.1	160 11	203 14.0	363 25.0
36	38.300 972.8	46 3.2	64 4.4	123 8.5	167 11.5	334 23
42	44.500 1130.3	39 2.7	54 3.7	107 7.3	145 10.0	261 18
48	50.800 1290.3	34 2.3	51 3.5	94 6.5	123 8.5	247 17
54	57.560 1462.0	30 2.1	42 2.9	81 5.5	113 7.8	223 15.4
60	61.610 1564.9	26 1.8	36 2.5	73 5.0	102 7.0	203 14
72	75.340 1913.6	20 1.3	29 2.0	51 3.5	80 5.5	160 11



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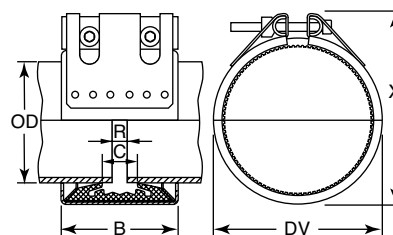


STRAUB-GRIP
for Copper Tube

STRAUB COUPLINGS FOR COPPER TUBE

Axial Restraint Pipe Couplings

- Pipes must be properly anchored and supported.



STRAUB-GRIP Copper Tube Sizes (CTS)

Nominal Tubing Size	PIPE OUTSIDE DIAMETER			Working Pressure	COUPLING DIMENSIONS		ASSEMBLED DIMENSIONS		Maximum Distance Between Pipe Ends (Rmax.)		Torque Rate	Approx. Weight Each
	Actual	OD Range +/-	Without Strip insert						With			
					B	C	DV	X				
										In./mm		
2"	2.125 54.0	2.10 - 2.15 53.5 - 54.5	250 17.2	3.0- 65	1.5- 24	3.0 94	4.1 100	0.4 10	0.6 15	See label on coupling for proper torque rates	1.1 0.5	
2½"	2.625 66.6	2.55 - 2.65 64.9 - 67.3	390 27	3.7 94	1.4 36	3.5 89	5.0 127	0.4 10	0.6 15		1.54 0.7	
3"	3.125 79.4	3.09 - 3.16 78.7 - 80.3	333 23	3.7 94	1.4 36	4.0 102	5.4 137	0.4 10	0.6 15		2.86 1.3	
4"	4.125 104.8	4.08 - 4.17 103.8 - 105.8	250 17.2	3.7 94	1.4 36	5.3 135	6.1 155	0.4 10	1.0 25		3.3 1.5	
6"	6.125 155.6	6.06 - 6.19 154.1 - 157.1	200 13.8	4.3 110	1.9 48	7.3 185	8.3 210	0.4 10	1.2 30		6.6 3.0	
8"	8.125 206.4	8.04 - 8.20 204.4 - 208.4	100 6.9	5.5 140	3.1 80	9.3 235	10.4 264	0.4 10	1.4 35		12.1 12.1	

*W5 only

STRAUB-PLAST-PRO

Axial restraint connection of PE80 and PE100 pipes

Axially restrained full set allowing a quick and simple installation of pressure pipes made of polyethylene (PE). The full sets are available for pipes in dimension SDR 11 (63.0 - 110.0 mm, PN16) and SDR 17 (>110.0 - 355.0 mm, PN10). STRAUB-PLAST-PRO is particularly suitable for water, waste water, industrial plants and maintenance applications.

STRAUB-PLAST-PRO is applicable, whenever pipes cannot be connected by conventional technologies, like electro fusion. The unique full set offers the great advantage that pipes can easily be connected, without the need for an external power supply and pipe end preparations, even under demanding external circumstances.

The pipes made of PE 80 or PE 100 are connected with a combination of liner and two connectors. STRAUB-PLAST-PRO is highly resistant to corrosion, thanks to the usage of first class materials.

PE pipes with added protective layer and diffusion barrier layer are normally used, when drinking waterlines have to be installed in contaminated soils. If the pipes are connected in a conventional manner, it is essential that the aluminum layer is removed. This operation is not necessary if STRAUB-PLAST-PRO will be used. STRAUB-PLAST-PRO connects such barrier layer pipes easily and safely without any pipe end preparation.



PE80 and PE100 pipes
according to DIN 12201 / DIN 8074



STRAUB-PLAST-PRO Liner
(illustrated STRAUB-PLAST-PRO L)



PE Pipe with aluminum layer



All STRAUB couplings require correct use of a torque wrench for safe and proper installation. STRAUB couplings must be torqued to the specified value printed on each individual coupling. Failure to do so can result in injury or death.

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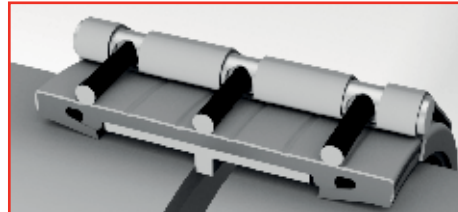


STRAUB AIR-FLEX

Assembling aeration and scour air service piping can be a challenge. Long runs and big temperature changes require a flexible coupling solution. From 8" – 84", STRAUB-AIRFLEX is the easiest and most cost effective way to solve the problem.

Features:

- Lightweight
- No special tools required for assembly
- Angular Flexibility
- Axially movement up to 1" (25.4mm)
- Two-piece model allows gasket replacement without pipe removal



STRAUB AIR-FLEX: HOW IT WORKS

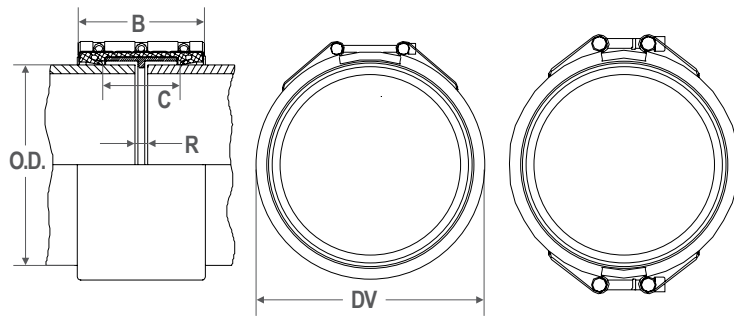
STRAUB AIR-FLEX is a connector and compensator in one.



The integrated T- profile prevents the pipe coupling from moving away from the pipe gap.

The pipe ends push either on the left or right side against the T-profile, holding the pipe coupling into the right position to cover the pipe gap. This will allow up to 1" (25.4mm) axially movement of the pipe.

STRAUB AIR-FLEX



B = Width of pipe coupling - 8.26" | 210mm

DV Outside diameter of the coupling installed
OD+1½" | OD+38mm

C = Distance between sealing lips
5" | 127mm

R (maximum) Distance between pipe ends with strip insert
2" | 50mm

STRAUB-AIR-FLEX Selection Chart

Assembly	Pipe O.D. In./mm	Clamping Range In./mm	Working Pressure psi/bar	Torque Rate ft lbf/Nm
Single Piece Construction With 3 Bolts	8.625	8.5 - 8.7	20	29.5
	219.1	216 - 222	1.4	40
	10.75	10.6 - 10.9	20	29.5
	273	270 - 276	1.4	40
	12.75	12.6 - 12.9	20	29.5
	323.9	321 - 327	1.4	40
	14	13.9 - 14.1	20	29.5
	355.6	352 - 358	1.4	40
	16	15.9 - 16.1	20	29.5
	406.4	403 - 409	1.4	40
	18	17.9 - 18.1	20	29.5
	457.2	454 - 460	1.4	40
	20	19.8 - 20.2	20	29.5
	508	504 - 512	1.4	40
	22	21.9 - 22.1	20	29.5
	558.8	555 - 562	1.4	40
	24	23.9 - 24.1	20	29.5
	609.6	606 - 613	1.4	40
	28	27.8 - 28.1	20	29.5
	711.2	707 - 715	1.4	40
Two Piece Construction Available on Request	30	29.8 - 30.2	20	29.5
	762	758 - 766	1.4	40
	32	31.9 - 32.2	20	36.8
	812.8	809 - 817	1.4	50
	36	35.8 - 36.1	20	36.8
	914.4	910 - 918	1.4	50
	40	39.8 - 40.2	20	36.8
	1016	1012 - 1020	1.4	50
	44	43.8 - 44.2	20	36.8
	1117.6	1113 - 1122	1.4	50
	48	47.8 - 48.2	20	36.8
	1219.2	1215 - 1224	1.4	50
	52	51.8 - 52.2	20	36.8
	1320.8	1316 - 1325	1.4	50
	56	55.8 - 56.2	20	44.3
	1422.4	1418 - 1427	1.4	60
	60	59.8 - 60.2	20	44.3
	1524	1519 - 1529	1.4	60
	64	63.8 - 64.2	20	44.3
	1625.6	1621 - 1631	1.4	60
Two Piece Construction With 6 Bolts	68	67.8 - 68.2	20	44.3
	1727.2	1722 - 1732	1.4	60
	72	71.8 - 72.2	20	44.3
	1828.8	1824 - 1834	1.4	60
	76	75.8 - 76.2	20	44.3
	1930.4	1925 - 1935	1.4	60
	80	79.8 - 80.2	20	44.3
	2032	2027 - 2037	1.4	60
	84	83.8 - 84.2	20	44.3
	2133.6	2128 - 2138	1.4	60

Components & Materials	W 2	W 5
Casing	AISI 316 L	AISI 316 L
Bolts	AISI 4135	A4 - 80
Bars	AISI 12 L 14, galvanized	AISI 316 L

Sealing sleeve EPDM

- Temp.: -4°F up to +248°F | -20°C up to +120°C
- Medium: air service

Sealing sleeve FP M / FKM

- Temp.: -4°F up to +356°F | -20°C up to +180°C
- TMedium: air service and/or ozone

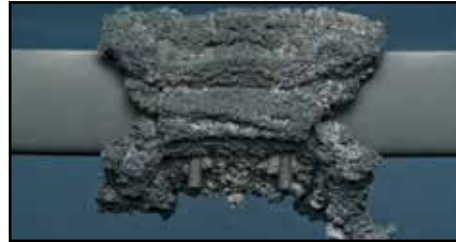
• Test Pressure = 1.5 times working pressure

• Conductivity clips available on request

SPECIALTY COUPLINGS

STRAUB FIRE-FENCE

The fire resistant coupling - for use wherever fire protection is required by law.



STRAUB REP-FLEX

STRAUB-REP-FLEX is used to reliably repair broken pipes and the leakage of water or drinking water pipes caused by corrosion.

The proven STRAUB sealing lip system is a dependable and durable solution for numerous pipe materials such as steel, cast iron, ductile cast iron, fiber cement, PVC or PE. It will also repair pipes of two different materials.

The EPDM sealing sleeve meets all SVGW, OVGW, WRC and NSF requirements as well as W270 and KEY according to DVGW.



Example for ordering:

STRAUB-REP-FLEX 460mm,
EPDM/SS Overall length 200,
ND 40, Ø 46-53mm

STRAUB COMBI-GRIP/PLAST-GRIP

Practical for Transitions

The STRAUB-COMBI-GRIP ensures a perfect connection at transitions between plastic and metal pipes by compensating for different outside diameters. The advanced technology and high-specification manufacture ensure increased safety and reliability wherever this coupling is used.



Universal for plastic pipe

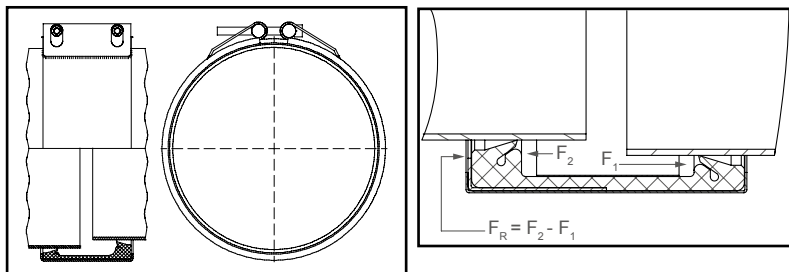
The STRAUB-PLAST-GRIP is the ideal combination for thick- and thin-walled plastic pipes. It is used for gas and water supply applications, for industrial pipeline constructions, suction and pressure lines.



STRAUB STEP-FLEX

The pipe connection for different pipe diameters

STRAUB STEP-FLEX overcomes large diameter differences from 10 to 30 mm. In order to protect the sealing sleeve, a stainless steel strip insert is included.



DIMENSIONS AND MINIMUM PIPE WALL THICKNESS

1 mm = .03937 in

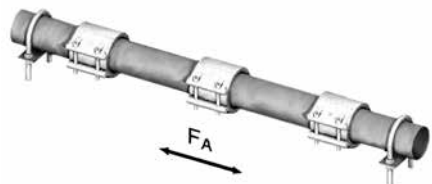
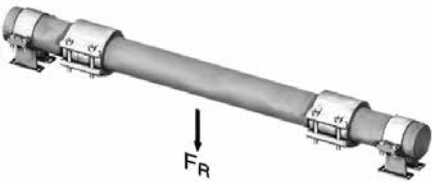
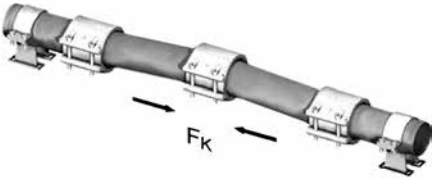
Pipe Diameter		Pipe OD		Minimum Wall Thickness	
IPS	Metric	IPS	Metric	Stainless Steel STRAUB-GRIP & METAL-GRIP	Copper-Nickel CuNi Class 200 STRAUB-GRIP
(Nominal)	(DIN Std.)	inch	mm	mm	in/mm
3/4	20	1.050	26.9	1.5	.04/1.02
	25	1.180	30.0	1.5	
1	25	1.325	33.7	1.5	.05/1.27
	32	1.495	38.0	1.5	
1 1/4	32	1.670	42.4	1.5	.05/1.27
	40	1.750	44.5	1.5	
1 1/2	40	1.900	48.3	1.5	.05/1.27
	50	2.125	54.0	1.5	
	50	2.245	57.0	1.5	
2	50	2.375	60.3	1.5	.06/1.52
	65	2.625	66.6	2.0	
	65	2.756	70.0	2.0	
2 1/2	65	2.875	73.0	2.0	.07/1.78
	65	3.000	76.1	2.0	
	65	3.125	79.4	2.0	
	80	3.305	84.0	2.0	
3	80	00	88.9	2.0	.08/2.03
3 1/2	80	3.960	100.6	2.0	.08/2.03
	90	4.000	101.6	2.0	
	100	4.095	104.0	2.0	
	100	4.125	104.8	2.0	
	100	4.250	108.0	2.0	
4	100	4.500	114.3	2.0	.09/2.29
	100	5.000	127.0	2.3	
	125	5.080	129.0	2.3	
	125	5.125	130.2	2.3	
			131.0*	3.0	
	125	5.235	133.0	2.3	
5	125	5.500	139.7	2.3	.10/2.54
	125	5.565	141.3	2.3	
	150	6.065	154.0	2.3	
			155.6*	2.5	
	150	6.260	159.0	2.3	
6	150	6.625	168.3	2.3	.12/3.05
	200	7.625	193.7	3.0	
			206.4		
8	200	8.625	219.1	3.0	.15/3.81
Minimum Wall Data Below For STRAUB-GRIP Only *					
	225	9.625	244.5	3.0	
	250	10.510	267.0	3.0	
10	250	10.750	273.0	3.0	.19/4.82
			306.0	3.0	
12	300	12.750	323.9	3.0	.22/5.50
14	350	14.000	355.6	3.0	.24/6.10
16	400	16.000	406.4	3.0	.27/6.86
18	450	18.000	457.2	3.0	.30/7.62
20	500	20.000	508.0	3.0	.33/8.38
22	550	22.000	558.8	3.0	.36/9.14
24	600	24.000	609.6	3.0	.40/10.16

 standard IPS diameter

*For STRAUB-METAL-GRIP data on these sizes please consult factory.

FORCES TO AVOID

STRAUB PIPE COUPLINGS

<h3>Pull-Out Forces</h3>	<p>Axial Force (F_A)</p>  <p>OK for STRAUB-GRIP Type. Not resisted by STRAUB-FLEX/OPEN-FLEX</p>
<h3>Sheer Loads*</h3> <p>(consult factory for specific data)</p>	<p>Weight (F_R)</p>  <p>Not resisted by STRAUB-FLEX or STRAUB-GRIP</p>
<h3>Knee</h3>	<p>Buckling (F_k)</p>  <p>Not resisted by STRAUB-FLEX or STRAUB-GRIP. Pipes must be properly guided.</p>

*Please consult the factory or an authorized STRAUB Distributor for any installation or application questions.

COUPLING/PIPE COMPATIBILITY:

Pipe Materials	Stiffening Ring	STRAUB-METAL GRIP/STRAUB-GRIP	STRAUB-FLEX/STRAUB-OPEN-FLEX	STRAUB-COMBI GRIP/PLASTI GRIP	Remarks
Steel, Stainless Steel	-	Yes	Yes	Yes	Straub flex must be properly anchored
HDPE, PP, Noryl	Required	-	Yes	Yes	For STRAUB-FLEX pipes must be properly anchored
PVC, ABS, CPVC, C900	-	Yes	Yes	Yes	Stiffening Ring required for temps above 105°F
CFK, CRP, FRP, GRP (Centrifugal wound pipes)	-	-	Yes	-	Seal pipe surface at the cutting edge
Asbestos cement	-	-	Yes	-	
Concrete, CPP	-	-	Yes	-	Equalize rough surface with coating or filler
Cast (ductile, grey)	-	Yes	Yes	Yes	
Glass, Ceramic	-	-	Yes		
Copper-Nickel	-	Yes	Yes	Yes	Soft Copper with Stiffening Ring only
Aluminum	-	Yes	Yes	Yes	

INSTALLATION INFORMATION

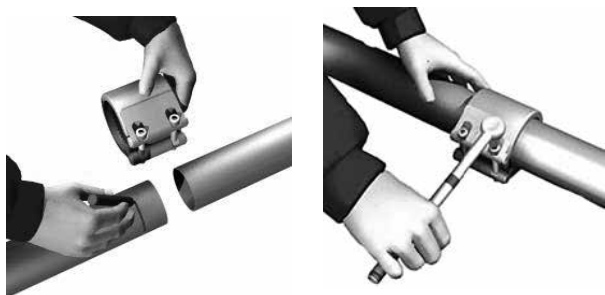
STRAUB PIPE COUPLINGS INSTALLATION AND REMOVAL INSTRUCTIONS

INSTALLATION

Do not disassemble coupling.
Coupling comes ready to install.
Cut pipes to desired lengths.
Clean and de-burr pipe ends.
Pipes must be properly supported.
Center coupling over gap between pipe ends.
Do not exceed maximum allowed gap between pipe ends.

Using a torque wrench, tighten bolts to torque value printed on coupling.

Ensure that all bolts have been correctly torqued.



REMOVAL

Make sure there is no pressure or product in the system.
Loosen bolts. Do not remove bolts completely.
Carefully pry up and tap casing to release grip ring and gasket from pipe surface.
Slide coupling to side for removal.

CAUTION

Do not attempt to move coupling over pipe after tightening.
After coupling has been correctly installed, do not re-torque.
Do not hang weight of pipe in coupling.
Insure that pipes are properly supported.

STRAUB-FLEX Type couplings require anchored pipes.

STRAUB-FLEX Type couplings are not pull out resistant.

IMPORTANT APPLICATION INFORMATION

- ◆ A strip insert is required for vacuum service or for external pressure. See Column 6 for maximum gap requirements.
- ◆ STRAUB couplings are assembled with an internal silicone lubricant, special order when silicone-free product is required.
- ◆ STRAUB couplings are not designed to accommodate shear loading, or rotational (torsional) pipe movement. The weight of the pipe and contents must be supported. Only "STRAUB-GRIP" type couplings provide axial restraint.
- ◆ STRAUB-FLEX type couplings "DO NOT PROVIDE FOR AXIAL TYPE RESTRAINT". When using STRAUB-FLEX type couplings, pipes must be properly anchored and supported.
- ◆ All STRAUB couplings require the correct use of a torque wrench for a safe and proper installation. STRAUB couplings must be torqued to the specified value as printed on each individual coupling. Failure to do so can result in injury or death.

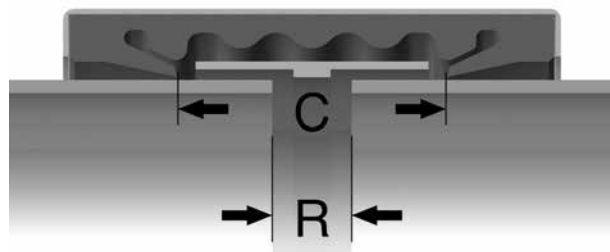
CONDUCTIVITY CLIPS

STRAUB-GRIP type couplings are conductive by design. STRAUB-FLEX type couplings require the use of STRAUB Conductivity Clips to insure electric current continuity between pipes. Conductivity Clips are not standard and must be ordered separately.

STRIP INSERTS

Strip inserts need only be used if required. Strip inserts protect the sealing sleeve against mechanical or chemical damage in the pipe gap area. Strip inserts are required when the distance between pipe ends is excessive or when axial movement is combined with angular deflection or axial "misalignment". The installation can be pre-fitted for all pipe coupling types. Strip inserts are also required for vacuum service or when aggressive media may be expected to degrade the rubber gasket. Selection of insert material to be dictated by the medium.

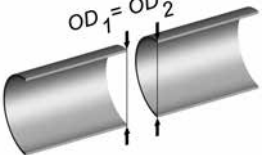
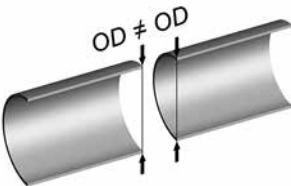
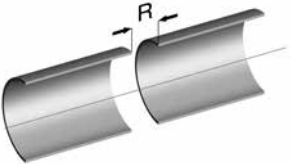
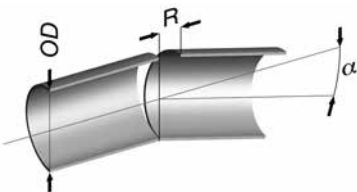
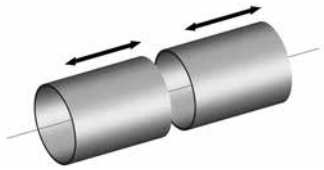
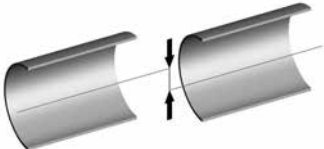
"T" type inserts (shown) also available for special applications.



All STRAUB couplings require correct use of a torque wrench for safe and proper installation. STRAUB couplings must be torqued to the specified value printed on each individual coupling. Failure to do so can result in injury or death.

WARNING: Cancer and Reproductive Harm Warning. For more information go to <http://www.P65Warnings.ca.gov>.

FITTING TOLERANCES

1		Clamping Range Connecting of two pipes with same outside diameter.
2		Different Diameters Connecting of two pipes with different outside diameter.
3		Setting Gap Between Pipe Ends R Connecting of two pipes with or without setting gap [R].
4		Angular Deflection (alpha) Setting gap between pipe ends through angular deflection. Maximum angular deflection (dynamic and static).
5		Axial Movement Δl STRAUB-FLEX/OPEN-FLEX couplings are pipe connectors and expansion joints combined into one unit.
6		Axial Misalignment Connecting of two pipes with axial misalignment. Maximum allowed 1% of outside diameter (max. 3 mm).

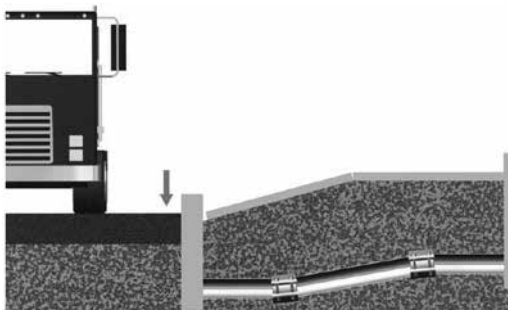
----> For Approximate values see chart on the next page

FITTING

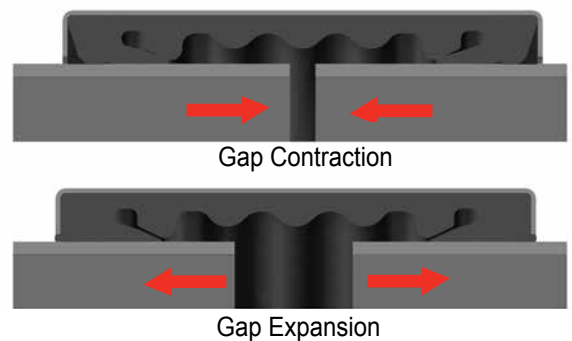
Approximate Values for fitting tolerances.

1 mm = .03937 in

STRAUB Type		Pipe OD-Range mm	1 Clamping range per OD	2 Different diameters	3 Setting gap between pipe ends R	
			+/- mm / %	mm / %	without	with
					Strip insert	
					mm	mm
STRAUB-METAL-GRIP		33.7 - 54.0	0.5 mm	2 mm	5	15
		57.0 - 88.9	1.0%	2 mm	10	25
		104.0 - 114.3	1.0%	2%	10	25
		133.0/139.7/159.0/168.3	1.0%	2%	15	30
		129.0/154.0/219.1/273.0	1.0%	2%	15	35
		323.9 - 609.6	1.0%	6 mm	15	35
STRAUB-GRIP		26.9 - 33.7	1.0%	2 mm	5	5
		38.0 - 48.3	1.0%	2 mm	5	10
		54.0 - 60.3/84.0	1.0%	2 mm	10	15
		73.0/76.1/88.9	1.0%	2 mm	10	25
		100.6 - 104.8	1.0%	2%	10	25
		108.0/114.3	1.0%	2%	10	25
		154.0	1.0%	2%	10	30
		127.0 - 141.3/159.0 - 273.0	1.0%	2%	10	35
		304.0-609.8	1.0%	6 mm	10	35
STRAUB-FLEX 1	STRAUB-OPENFLEX 1	48.3 - 60.3	0.5%	2	5	15
		76.1 - 88.9	1.0%	2	5	25
		100.6 - 114.3	1.0%	2%	5	25
		127.0 - 168.3	1.0%	2%	5	35
STRAUB-FLEX 2	STRAUB-OPEN-FLEX 2	180.0 - 300.0	1.0%	2%	10	35
		301.0 - 1219.2	3 mm	6 mm	10	35
STRAUB-FLEX 3		558.8 - 2032.0	3 mm	6 mm	15	60
STRAUB-OPEN-FLEX 3		558.8 - 1219.2	3 mm	6 mm	15	60



4 Angular Deflection		
Outside Diameter OD mm		Degree
GRIP	FLEX/OPEN-FLEX	
≤ 60.3mm	≤ 60.3mm	5
60.3 mm - 219.1 mm	60.3 mm - 219.1 mm	4
≥ 219.1mm	≥ 219.1mm	2



5 Max. Axial Movement	
STRAUB-Type	mm/in
FLEX 1 / OPEN-FLEX 1	5 mm / 0.2"
FLEX 2 / OPEN-FLEX 2	10 mm / 0.4"
FLEX 3 / OPEN-FLEX 3	15mm / 0.6"
FLEX 3.5 / OPEN-FLEX 3.5	15mm / 0.6"
FLEX 4 / OPEN-FLEX 4	20mm / 0.8"
AIR-FLEX	25mm / 1"


INSTALLATION TIMES AND DIMENSION COMPARISON

The installation time includes:

- Marking of half the coupling width on both pipe ends.
- Fitting the coupling over pipe ends and correct alignment.
- Tightening the bolts with a torque wrench.



Nominal Pipe Size		Pipe O.D.		Fitting Time Per Coupling min
IPS Nominal	Metric DIN Std.	IPS Inch	Metric mm	
0.75	20	1.050	26.7	2
-	25	1.180	30.0	2
1.00	25	1.325	33.7	2
-	32	1.495	38.0	2
1.25	32	1.670	42.4	2
-	40	1.750	44.5	2
1.50	40	1.900	48.3	2
-	50	2.125	54.0	3
-	50	2.245	57.0	3
2.00	50	2.375	60.3	3
-	65	2.625	66.6	4
2.50	65	2.875	73.0	4
-	65	(3.000)	76.1	4
-	65	3.125	79.5	4
-	80	3.305	84.0	4
3.00	80	3.500	88.9	4
-	80	3.960	100.6	5
3 1/2	90	(4.000)	101.6	5
-	100	4.095	104.0	5
-	100	4.125	104.8	5
-	100	4.250	108.0	5
4.00	100	4.500	114.3	5
-	100	5.000	127.0	6
-	125	5.080	129.0	6
-	125	5.125	130.2	6
-	125	5.235	133.0	6
5	125	(5.500)	139.7	6
-	125	5.565	141.3	6
-	150	6.065	154.0	7
-	150	6.260	159.0	7
6	150	6.625	168.3	7
8	200	8.625	219.1	9
-	225	9.625	244.5	10
-	250	10.510	267.0	10
10	250	10.750	273.0	10
12	300	12.750	323.9	12
14	350	14.000	355.6	12
16	400	16.000	406.4	12
18	450	18.000	457.2	12
20	500	20.000	508.0	12
22	550	22.000	558.8	12
24	600	24.000	609.6	12

 standard IPS diameter

STRAUB PRODUCTS



STRAUB-METAL-GRIP



STRAUB-METAL-GRIP FIRE-FENCE



STRAUB-ECO-GRIP



STRAUB-GRIP



STRAUB-GRIP FIRE-FENCE



STRAUB-COMBI-GRIP



STRAUB-PLAST-GRIP



STRAUB-PLAST-PRO



STRAUB-STEP-GRIP



STRAUB-FLEX



STRAUB-OPEN-FLEX



STRAUB-OPEN-FLEX GTS



STRAUB-AIR-FLEX



STRAUB-CLAMP SCE



STRAUB-CLAMP SCZ



STRAUB-DISMANTLING JOINTS



STRAUB-FLANGE ADAPTER

straub

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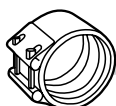
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