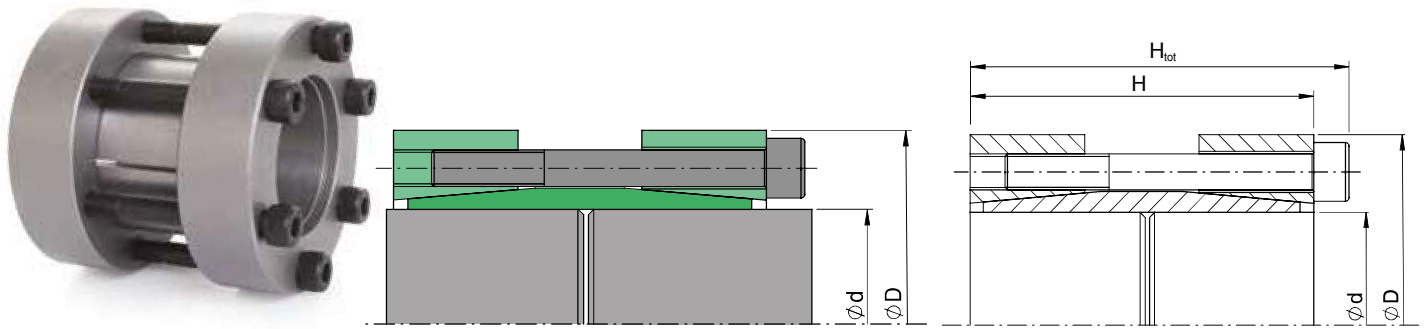


SIT-LOCK® 10 - rigid joint



Features

Composed of two tapered rings and a split inner ring. It is particularly suitable for clamping two shafts where medium-high torque transmission is required. The table shows performance data for the following tolerances:

shaft $d\ h9$

Do not use molybdenum disulphide-based oils or greases that reduce the coefficient of friction μ . The values in the table are calculated with $\mu\ 0.12$.

Installation with non-lubricated surfaces (dry)

The SIT-LOCK® 10 locking device is lubricated with oil before delivery to protect it from oxidation during storage. The values shown in the table have been calculated for applications with oiled contact surfaces. For dry installation, the values are:

$M_t, F_{ax} +25\%$

To get these value, the shaft and rigid joint inner ring contact surfaces must be cleaned with solvent. The shaft contact surfaces must also be completely dry.

Surface finish

Normal surface finish is sufficient. The following values are recommended:

$R_a \leq 3,2\ \mu m - R_t \leq 16\ \mu m$

Axial displacement

When tightening the screws there is a hub to shaft axial displacement. The axial displacement value depends on the locking device, shaft and hub seat tolerances.

Installation

The coupling is supplied ready to assemble. Clean the shaft contact surfaces thoroughly and apply oil. Place the rigid joint between the two shafts to be connected, then:

- tighten two opposite screws until the coupling's inner ring surface makes contact with the shafts being joined;

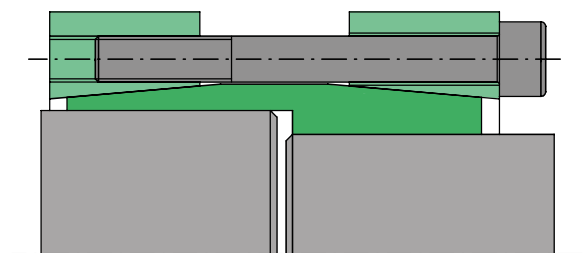
- tighten all screws to 50% of the screw tightening torque value M_s indicated in the table in a 'criss-cross' sequence;
- repeat to 100% of the M_s tightening torque indicated in the table;
- in continuous sequence, check that the tightening torque M_s has been achieved. Installation is complete when all screws are tightened to the M_s tightening torque indicated in the table.

Removal

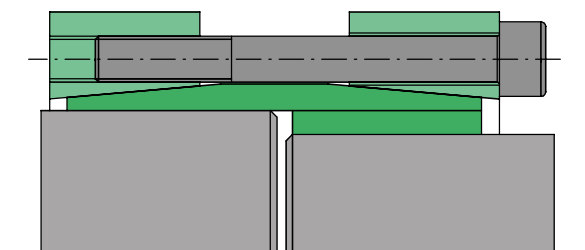
- gradually loosen the clamping screws. This is usually enough to unlock the two tapered outer rings;
- if necessary, lightly tap the tapered rings with a hammer to facilitate removal.

Reusing the rigid joint

For applications of considerable quantities, we can make a device with an inner ring that can couple two shafts of different diameters. See figure.



For quantities that do not justify mass production, we recommend making a split bushing to achieve the purpose of a serial joint. See figure.



Recommended split bushing tolerances:
inner diameter E7 - outer diameter e7

SIT-LOCK® 10 - rigid joint

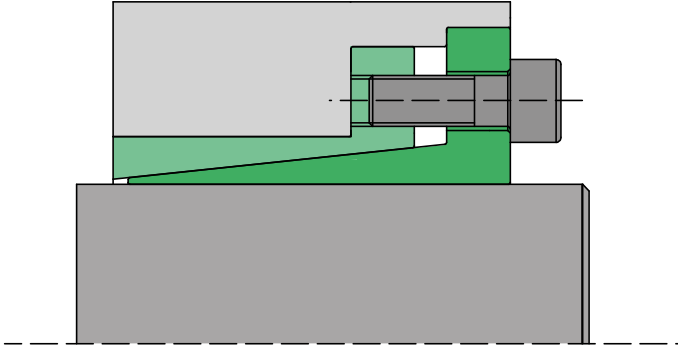
Dimensions [mm]			Clamping screws DIN 912 12.9			Values with tolerances for shaft h8/hub H8	
d x D	H _t	H	Number	Type	M _s [Nm]	M _t [Nm]	F _{ax} [kN]
15 x 45	56	50	4	M6	17	173	23
17 x 50	56	50	4	M6	17	196	23
18 x 50	56	50	4	M6	17	207	23
19 x 50	56	50	4	M6	17	219	23
20 x 50	56	50	4	M6	17	231	23
22 x 55	66	60	6	M6	17	380	35
24 x 55	66	60	6	M6	17	415	35
25 x 55	66	60	6	M6	17	432	35
28 x 60	66	60	6	M6	17	484	35
30 x 60	66	60	6	M6	17	519	35
32 x 63	66	60	6	M6	17	553	35
35 x 75	83	75	4	M8	41	764	44
38 x 75	83	75	4	M8	41	829	44
40 x 75	83	75	4	M8	41	873	44
42 x 78	83	75	4	M8	41	916	44
45 x 85	93	85	6	M8	41	1.473	65
48 x 90	93	85	6	M8	41	1.571	65
50 x 90	93	85	6	M8	41	1.636	65
55 x 94	93	85	8	M8	41	2.400	87
60 x 100	93	85	8	M8	41	2.618	87
65 x 105	93	85	8	M8	41	2.836	87
70 x 115	110	100	6	M10	83	3.551	101
75 x 120	110	100	6	M10	83	3.805	101
80 x 125	110	100	8	M10	83	5.411	135

M_s Screw tightening torque Nm
M_t Transmissible torque Nm
F_{ax} Transmissible axial force kN

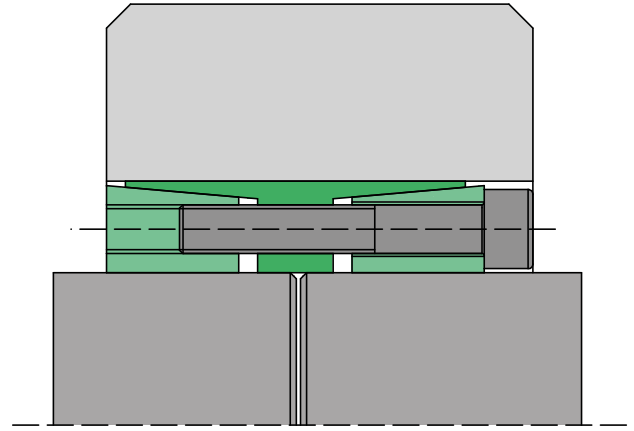
IMPORTANT: The screw tightening torque M_s can be reduced by 40% of the value indicated in the table. M_t, F_{ax}, P_w, P_n decrease proportionally. For further information, please contact our Technical Department.

For larger diameters or dimensions different to those in the table, please contact us.

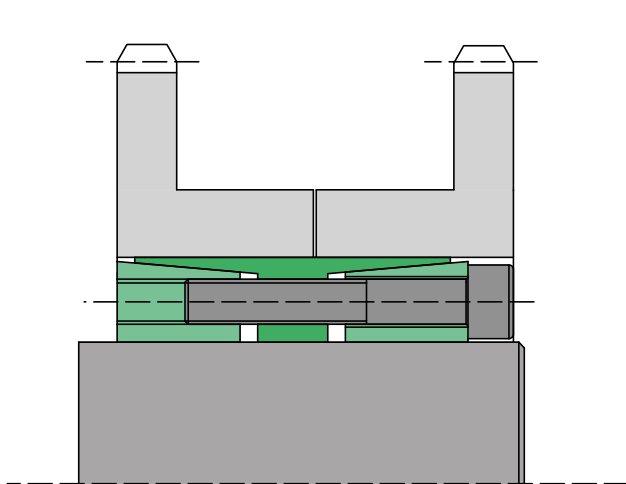
Application examples



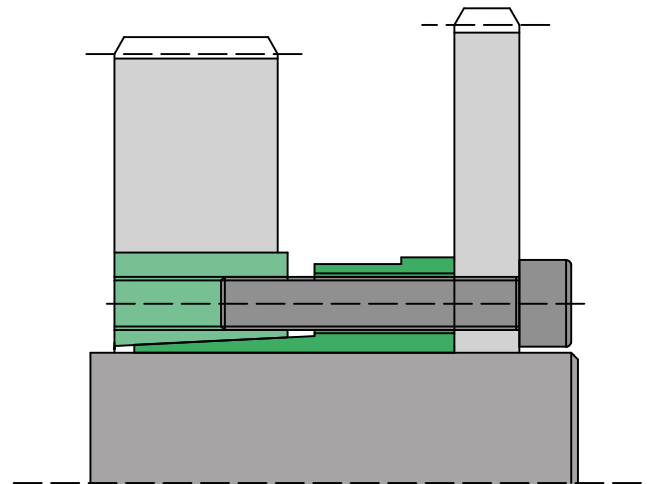
SIT-LOCK® 3 hub applications without spacer. Recommended for high rotation speeds.



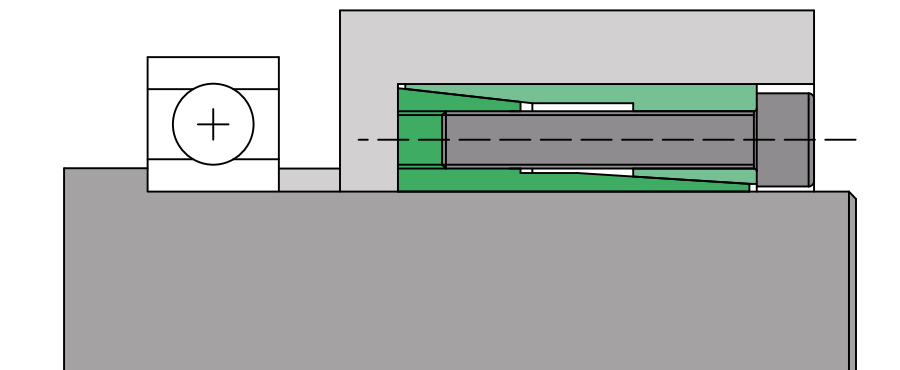
Locking two shafts and a hub using SIT-LOCK® 4. Only one locking device is used for locking 3 components.



Simultaneously locking two sprockets using SIT-LOCK® 4.



Joining a timing belt pulley and a brake disc with SIT-LOCK® 5A.



Locking a hub while also generating an axial force to axially lock a bearing.