

## Right-angle and swivel couplers

### Holder/ Manufacturer/ Supplier

#### Solideq AS

Rypevägen 2, 2406 Elverum

### Product name

Solideq right-angle coupler and swivel coupler

### Product description

According to pages 2-4 of this type-examination certificate. Technical documentation as provided to RISE, no. P103949.

### Certificate

RISE certifies that the product specified on this type-examination certificate complies with the requirements of the Swedish Work Environment Authority's Statute Book as per the provisions of AFS 2013:4 Scaffolding, Section 10 (RISE certification rules SPCR 064) and SS-EN 74-1.

### Permissible load

Coupler class B or BB with conditions according to the product description.

### Marking

The couplers shall be marked by stamping/embossing with EN 74-1, coupler class (BB for right angle coupler resp. B for swivel coupler), SOLIDEQ, month of manufacture (2 digits) and year of manufacture (2 digits), type of production control (M). The products can also be marked with the RISE type-examination label (see below for example).

### Period of validity

The type-examination certificate is valid until no later than 2031-06-30.

### Miscellaneous

RISE conducts annual inspections of type-examined scaffolding components as per Section 5 of SPCR 064. This is the first version of the type-examination certificate.



Martin Tillander

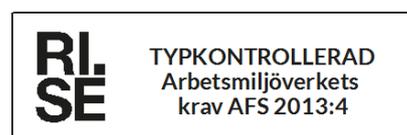
*This is a translation from the Swedish original document. In the event of any dispute as to its content, the Swedish original shall take precedence.*

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### Product description for Solideq right-angle and swivel couplers

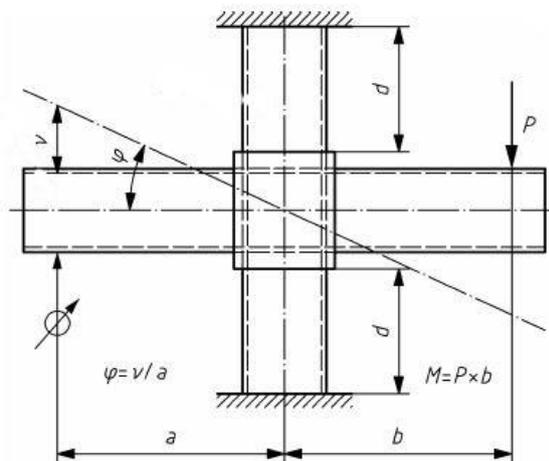
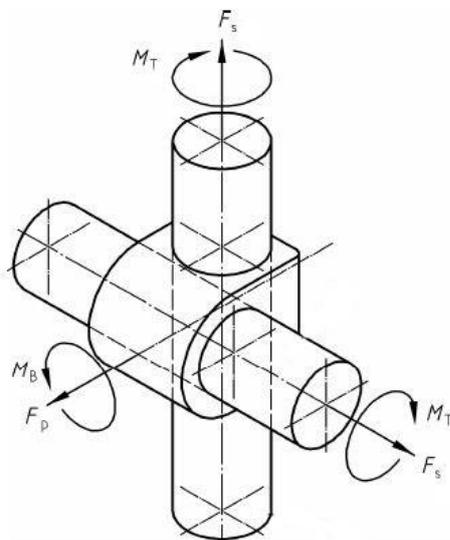
Solideq right-angle couplers consists of a coupling part with two loose clamps and two screws used to join two  $\varnothing 48.3$  mm scaffolding pipes at a  $90^\circ$  angle to each other. Solideq swivel couplers consists of two movable coupling parts, each with a bracket and two screws for joining two scaffolding pipes at any angle to each other.

Designation	Art. no.
Right-angle coupler	T00023
Swivel coupler	T00025

### Bearing capacity

The values for design parameters according to SS-EN 741 -and SS-EN 12810-1, Annex C (SS-EN 12811-1) and the corresponding allowable values for the superposition calculations are shown in the following tables. Permissible values are calculated with  $\gamma_F = 1.5$  and  $\gamma_m = 1.1$ .

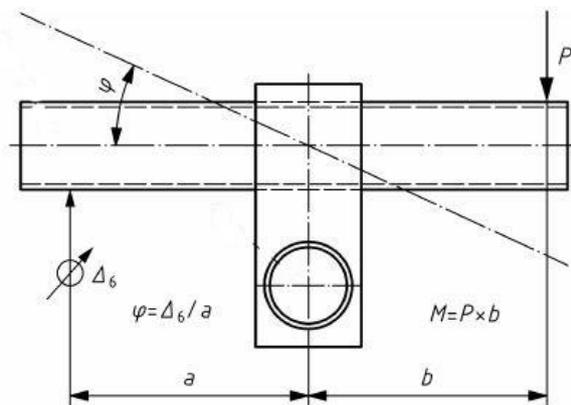
Design parameters	Designation		Characteristic value	Permissible value	Characteristic value	Permissible value
Coupler class			B		BB-BB	
<b>Right-angle coupler</b>						
Slipping force	$F_s$	(kN)	15.0	9.1	25.0	15.2
Cruciform bending moment	$M_B$	(kN m)	0.8	0.48	-	-
Pull apart force	$F_p$	(kN)	30.0	18.2	-	-
Rotational moment, max	$M_T$	(kN m)	0.13	0.08	-	-
<b>Swivel coupler</b>						
Slipping force	$F_s$	(kN)	15.0	9.1	-	-



### Dimensional stiffness values for right-angle coupler

Design parameters	Bending stiffness	Bending moment	Stiffness	Bending moment at failure
Designation	$C_{\varphi 1}$	$M_{B1}$	$C_{\varphi 2}$	$M_{B2}$
	(kNm/rad)	(kNm)	(kNm/radian)	(kNm)
Steel pipes	15.0	0.48	6.0	0.8
Aluminium pipes	13.0	0.48	5.0	0.8

Design parameters	Rotational stiffness	Rotational moment
Designation	$C_{\nu}$	$M_T$
	(kNm/rad)	(kNm)
	7.5	0.13



### Reduction couplers

Reduction couplers are used to attach pipes or the like that have a different dimension than standard 48.3 mm diameter scaffolding pipes. The couplers in the table must not be used as load-bearing couplings.

Designation	Art. no.
Coupler right-angle 48/34	T00057
Coupler swivel 48/34	T00057A
Coupler swivel 48/42	T00176
Coupler right-angle 48/60	T00158
Coupler swivel 48/60	T00159
Coupler right-angle 48/76	T00090
Coupler swivel 48/76	T00145

### Surface treatment

Hot-dip galvanised corrosion protection class C3 for the coupling halves and class C2 for the bolt/rivet.

### Conditions of use

1. The couplers must be adjusted with a tightening torque of 50 Nm.
2. With the above values, the couplers are only intended to be used for steel pipes with a diameter of 48.3 mm, a minimum wall thickness of 3.2 mm and a minimum yield strength of 235 N/mm<sup>2</sup>,

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alternatively with a minimum wall thickness of 2.7 mm and a minimum yield strength of 315 N/mm<sup>2</sup>; or aluminium pipes with a diameter of 48.3 mm, a minimum wall thickness of 4.0 mm and a minimum yield strength of 195 N/mm<sup>2</sup>.

3. Class BB couplers shall be mounted with identical coupler types and shall be in contact with each other after mounting for use of coupling configuration BB-BB.
4. The transition couplers must not be used as load-bearing couplers.
5. The bolts of the couplers must be kept lubricated so that the internal friction is not too high.
6. Damaged couplers must not be used.
7. During the type-examination, the assembly manual version 2021.1 has been examined.

### Assembly instructions

The couplers must be accompanied by the assembly instructions when it is handed over to the user.

### Application

The type-examination certificate is valid for couplers with manufacturing according to the type-examination certificate and whose materials, dimensions and design correspond to the type-examined specimen.