



van Thiel United bv
s c a f f o l d e q u i p m e n t



Manual

ERREM

Scaffold Coupler

- Right-angle Couplers
- Swivel Couplers
- Sleeve Couplers with joint pin
- Parallel Couplers
- Beam Couplers

Wedge couplers are used for making a temporary connection between two tubes:

- Ⓜ Right angle coupler: connecting two tube in a right angle
- Ⓜ Swivel coupler: connecting two tubes in any angle
- Ⓜ Sleeve coupler: connecting two tubes in an end-to-end connection

The connection is obtained by tightening the flaps of the coupler on the tube and hammering the wedge with a 500 gram hammer.

Standards

Van Thiel couplers are fully tested and do comply with the European NEN-EN 74 standard in the following classes:

- Ⓜ Class B for right angle couplers
- Ⓜ Class B for swivel couplers
- Ⓜ Class B for sleeve couplers

Material

The base materials of the couplers follow the Euro standard. All base materials are tested at the van Thiel factory according to our ISO 9000-2000 system.

Identification

Van Thiel couplers are recognizable by a marking in the flap of the coupler or in the fixed wedge. Marking text: Ⓜ EN- 74 SW-A- 02-CU

Quality

The van Thiel quality department checks the quality of the couplers by means of daily process checks and tests of the couplers.

Corrosion protection

The couplers are hot dip galvanized or sherardised galvanized and have therefore a lifetime corrosion protection. Corrosion protection following:

- Ⓜ NEN 2694 and NEN 5253 sherardising
- Ⓜ NEN 1275 and NEN 2693 and DIN ISO 50976 Hot dip galvanized.

Use

Use couplers only for connecting two steel scaffolding tubes or two aluminium scaffolding tubes with a diameter which corresponds with the inside diameter of the coupler.

A coupler in which the clamping force on the tubes is provided by tightening the flaps around the tube and by means of hammering home a wedge.

Wedge couplers shall be tightened with a 500 grams hammer to the **jarring blow**.

This means two or three blows with a hammer of 500 grams using normal power.

We recommend hand and eye protection using wedge couplers.

Each coupler should be visually checked before using it. If any coupler is visually damaged or deformed, disqualify the coupler and don't use it anymore.

ERREM right angle coupler



1



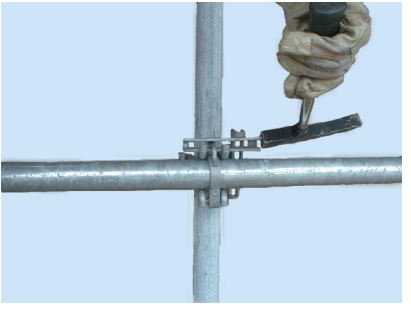
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ERREM swivel coupler



4

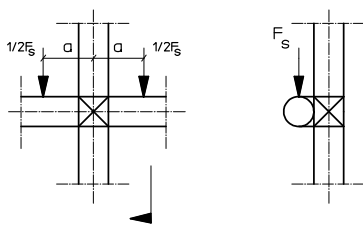


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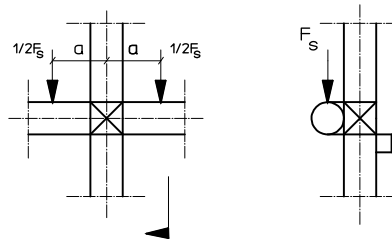
Right-angle coupler	
	EN 74 and EN 74-1 class B
Productnumber:	P-1057
Weight:	1,5 kg
Practical value:	9,1 kN
Safety factor:	1,65
Productcode in wedge:	THIEL EN-74-B-03-CÜ
Right-angle coupler:	Connecting two tubes at right angles
EN 74:	Testing according to NEN-EN 74 1988 and EN 74-1 2005
B:	Class according to NEN-EN 74 1988 and EN 74-1 Slipping force $F_{r,k}$ 15,0 kN
03:	Year of production
CÜ:	control of production by means of an independent certification institute

Slipping force



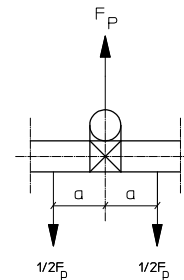
$F_s = 15 \text{ kN}$
 $F_{s\gamma} = 9,1 \text{ kN} (\gamma=1,65)$
 $1 \leq \Delta 2 \leq 2 \text{ mm}$

Failure force



$F_s = 2 \times 15 = 30 \text{ kN}$
 $F_{s\gamma} = 18,2 \text{ kN} (\gamma = 1,65)$

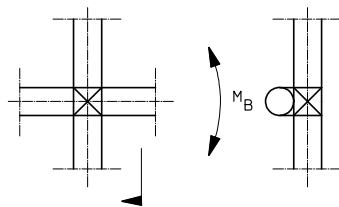
pull apart



$F_p = 30 \text{ kN}$
 $F_{p\gamma} = 30 \text{ kN} (\gamma = 1)$

Loaded coupler supported by an extra coupler

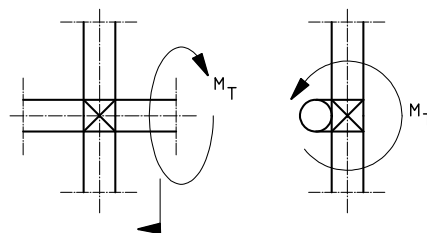
Cruciform bending stiffness



Steel tube:
 $M_B = 0,48 \text{ kNm} \quad \gamma = 1,65 \quad c_1 = 15 \text{ kNm/rad}$
 $M_B = 0,80 \text{ kNm} \quad \gamma = 1,00 \quad c_2 = 6,0 \text{ kNm/rad}$

Aluminium tube:
 $M_B = 0,48 \text{ kNm} \quad \gamma = 1,65 \quad c_1 = 13 \text{ kNm/rad}$
 $M_B = 0,80 \text{ kNm} \quad \gamma = 1,00 \quad c_2 = 5 \text{ kNm/rad}$

Moment of rotation



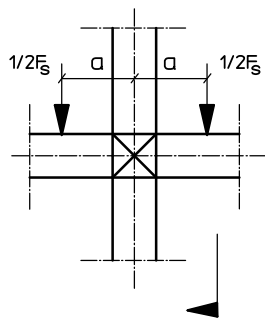
$M_{T1} = 100 \text{ Nm} \quad \phi = +/- 1^\circ$
 $M_{T2} = 130 \text{ Nm} \quad \phi = +/- 2^\circ$

Steel and aluminium tube according to prEN-74-1 or ASTM with an outside diameter of min.47,8 mm and max. 48,8 mm.



Swivel coupler	
	EN 74 class B
Productnumber:	P-1126
Weight:	1,7 kg
Practical value:	9,1 kN
Safety factor:	1,65
Productcode in wedge:	EN-74-CÜ-*1633
Swivel coupler:	Connecting two tubes at an angle
EN 74:	Testing according to NEN-EN 74-1 2005
CÜ:	control of production by means of an independent certification institute
*:	Coupler type
1633:	Product specifications for production

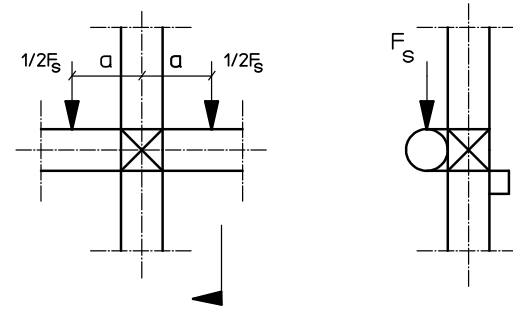
Slipping force



$$F_s = 15 \text{ kN}$$

$$F_{s\gamma} = 9,1 \text{ kN} \quad (\gamma = 1,65) \quad 1 \leq \Delta 2 = \leq 2 \text{ mm}$$

Failure force



$$F_s = 2 \times 15 = 30 \text{ kN}$$

$$F_{s\gamma} = 18,2 \text{ kN} \quad (\gamma = 1,65)$$

Loaded coupler supported by an extra coupler



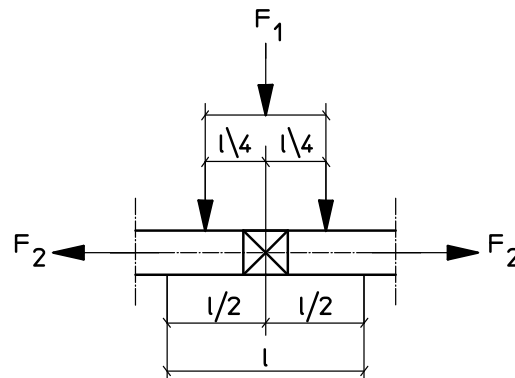
Sleeve coupler	with joint pin
	EN 74 class B
Productnumber:	P-1125 + P-1140
Weight:	1,7 kg
Practical value:	5,45 kN (pull apart) 1,46 kNm (moment)
Safety factor:	1,65
Productcode in wedge:	Ⓜ EN-74-B-03-CÜ
Sleeve coupler & joint pin:	Connecting two tubes in axial direction
EN 74:	Testing according to NEN-EN 74 1988 and EN 74-1 2005
B:	Class according to NEN-EN 74 1988 and EN 74-1 Pull apart $F_{r,k}$ 9,0 kN. $1 \leq \Delta 2 \leq 2$ mm Moment: 2,4 kNm
03:	Year of production
CÜ:	control of production by means of an independent certification institute

Moment

$F_1 = 19,2 \text{ kN} \Rightarrow \text{Moment} = 2,4 \text{ kNm}$.
 $M_\gamma = 1,45 \text{ kNm}$ ($\gamma = 1,65$)

Pull

$F_2 = 9 \text{ kN}$
 $F_{2\gamma} = 5,45 \text{ kN}$ ($\gamma = 1,65$)

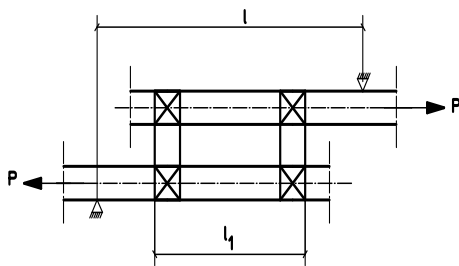


Always use sleeve coupler with joint pin



Parallel coupler	
	EN 74 class B
Productnumber:	P-1132
Weight:	1,9 kg
Practical value:	9,1 kN
Safety factor:	1,65
Productcode in wedge:	THIEL EN-74-B-03-CÜ
Sleeve coupler & joint pin:	Connecting a tube parallel with another tube
EN 74:	Testing according to NEN-EN 74 1988 and EN 74-1 2005
B:	Class according to NEN-EN 74 1988 and EN 74-1 Slipping force $F_{r,k}$ 15,0 kN. $1 \leq \Delta 2 = \leq 2$ mm
03:	Year of production
CÜ:	control of production by means of an independent certification institute

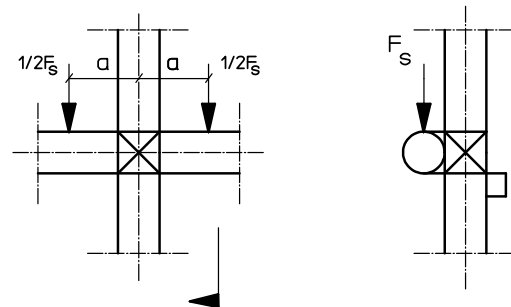
Slipping force



$F_s = 15$ kN
 $F_{s\gamma} = 9,1$ kN ($\gamma=1,65$) $1 \leq \Delta 2 = \leq 2$ mm

Loaded coupler supported by an extra coupler

Failure force

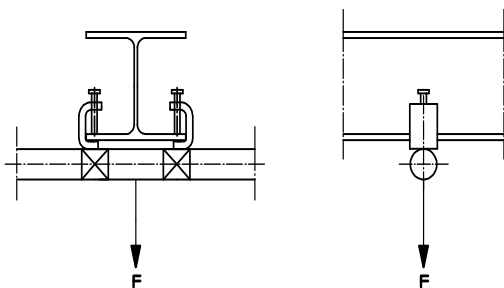


$F_s = 30$ kN



Beam clamp	Type wedge
	EN 74 class B
Productnumber:	P-1069
Weight:	1,3 kg
Practical value:	36 kN (use in pairs)
Safety factor:	1,65
Productcode in wedge:	THIEL 9-A-1-3-3-C-A use in pairs
Beamclamp:	Connecting tubes on steel beams (I profile)
EN 74:	Testing according to EN 74-2 2005
B:	Class according to EN 74-2 Slipping force $F_{r,k}$ 10,0 kN. $1 \leq \Delta 2 = \leq 2$ mm Pull apart 60 kN per year (-30°C)
03:	Year of production
CÜ:	control of production by means of an independent certification institute

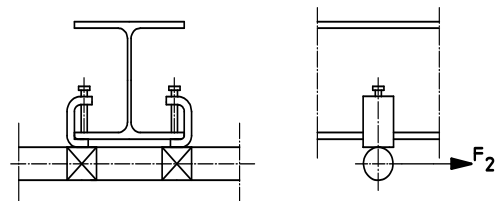
Pull apart



$F = 60$ kN per pair of couplers
 $F_{\gamma} = 36,0$ kN ($\gamma = 1,65$)

Moment of screw on bolt: 50 Nm

Slipping force



$F_1 = 10$ kN
 $F_{1\gamma} = 6,0$ kN