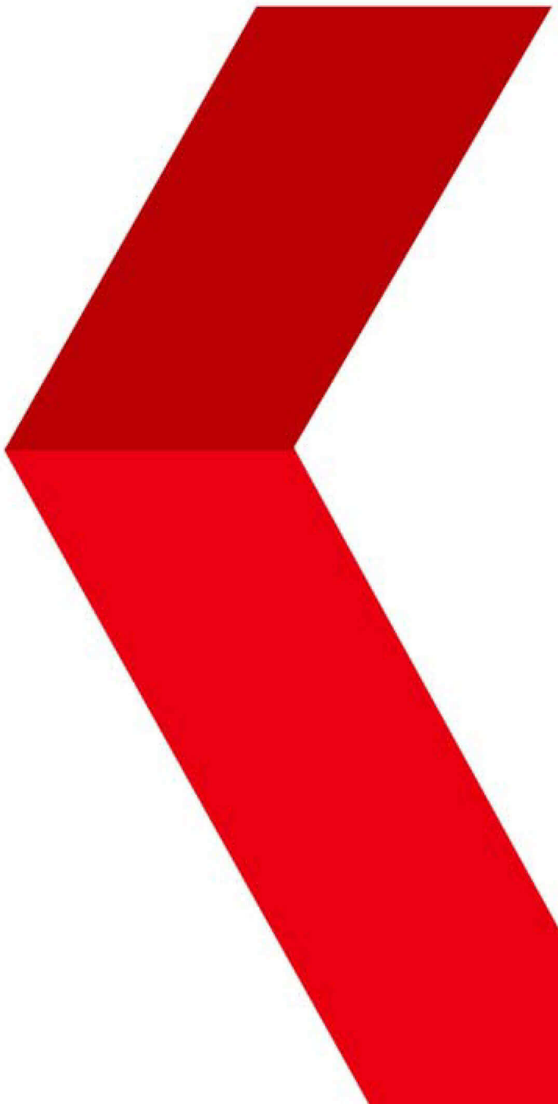
亿凯金属
EK METALWORK
NANJING EK METALWORK CO.,LTD



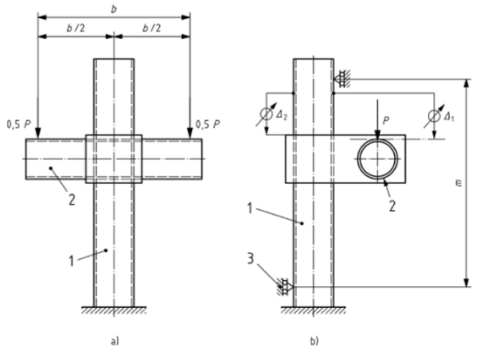
For all your scaffolding needs...
Mr.Kevin +86 18606192990
kevin@ekscaffolding.com

Based on EN 74-1: 2005 standard, EK scaffolding coupler is divided into the following categories according to different usage types, As below:

Type of coupler	Identification	Arrangement of tubes
Right angle coupler	RA	Crossing at a right angle
Swivel coupler	SW	Crossing at any angle
Parallel coupler	PA	Parallel
Sleeve coupler	SF	End to end coaxially

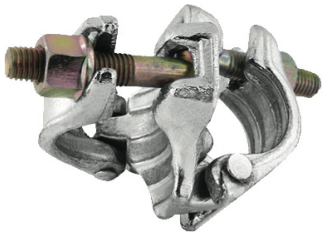
Right angle coupler

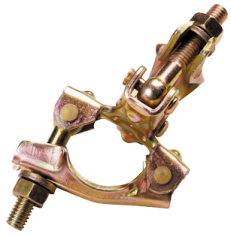
EN 74-1:2005 (E)



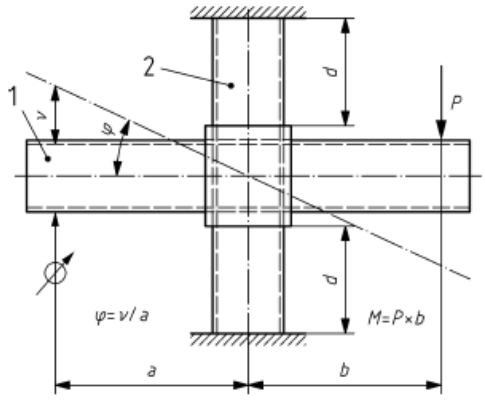
Key
1, 2 reference tube RT_{S1} – RT_A
3 bearing used to guide the tube
b ≤ 250 mm
m ≤ 500 mm

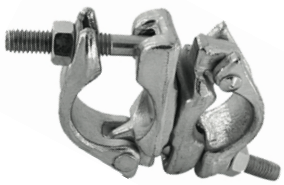
Figure 5 — Test arrangement for the slipping force F_s of right angle couplers and swivel couplers





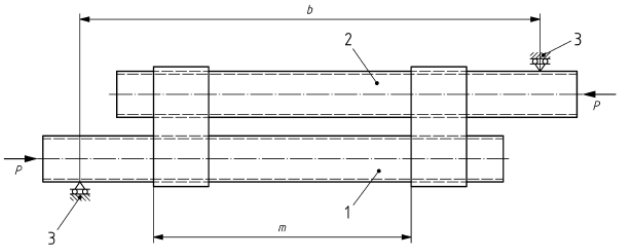
Swivel coupler







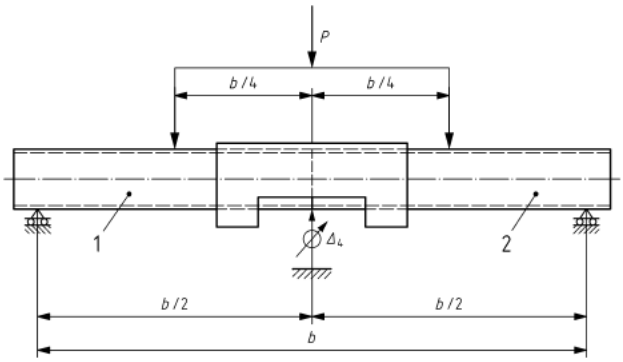
Parallel Coupler



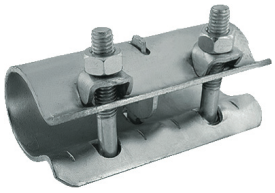


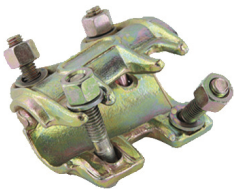


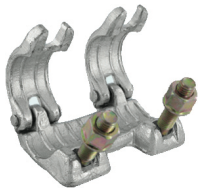
Sleeve Coupler









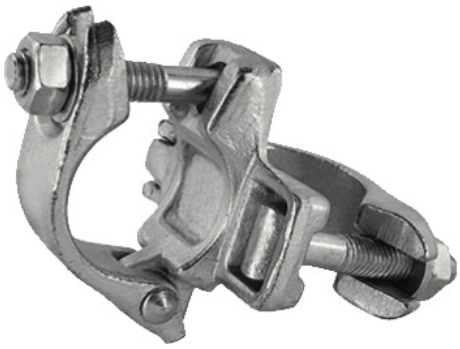


EK supplies scaffolding coupler with different sizes.

48.3*48.3
48.3*60.3
48.3*72.0
48.3*76.0
48.3*89.0
48.3*42.0

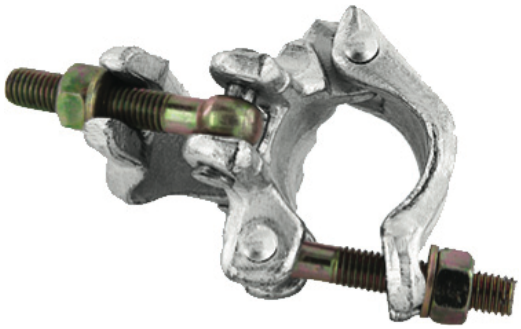
According to the design style of different countries EK as China scaffolding coupler supplier provides British type, American type, German type, Italian type, Japanese, Korean type, etc.

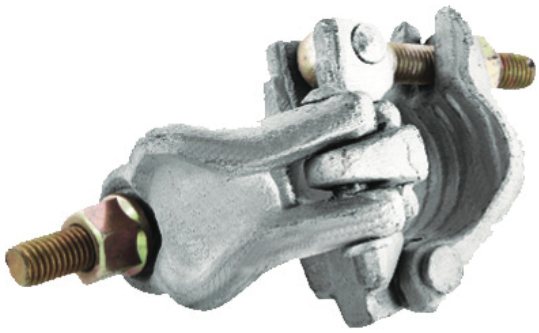
British type：



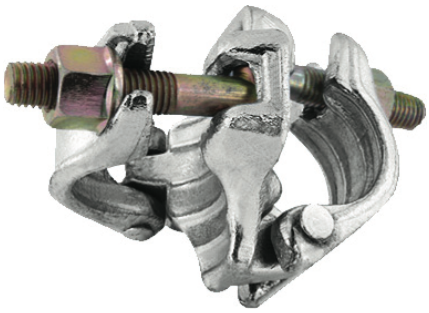


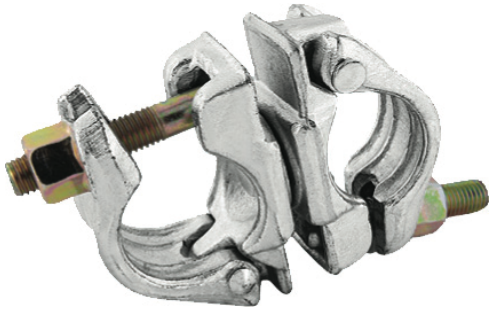
American type：



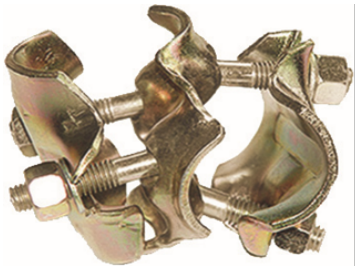


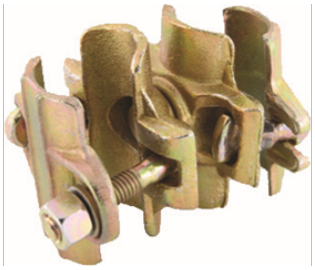
German type：

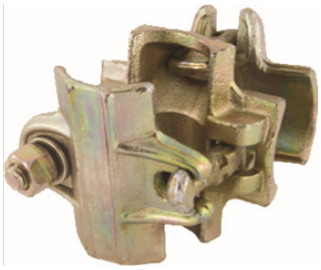




Italian type：



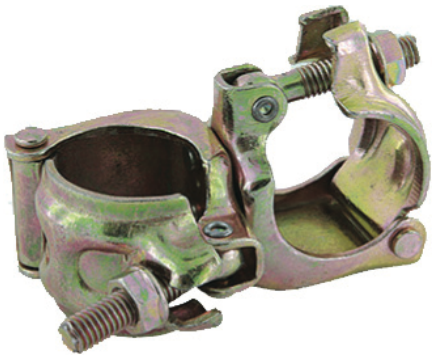


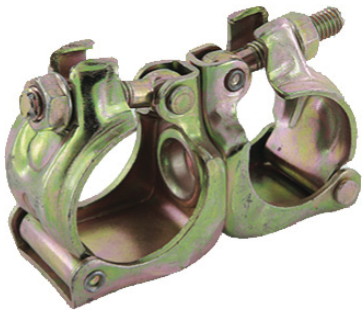


Japanese, Korean type：



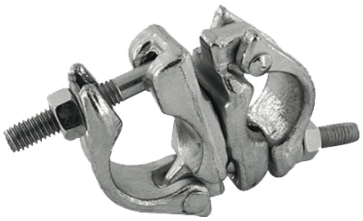


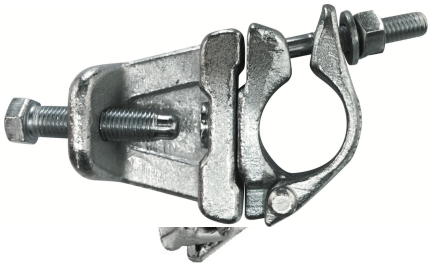




According to the different coupler production processes, it is mainly divided into forged coupler and pressed coupler, and a small amount of cast couplers.

Forged scaffolding couplers：





pressed couplers：



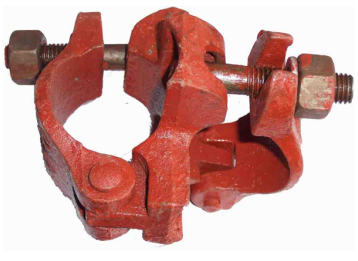


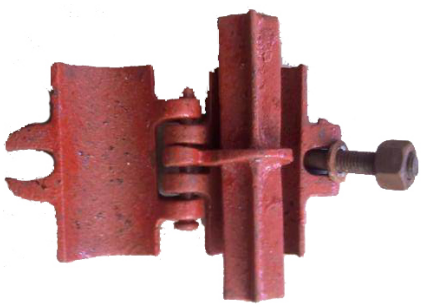






Casting couplers：







The scaffolding couplers grades based on the EN74 standard are divided into A grade, B grade, AA grade and BB grade.

Table 2 — Classes of couplers

Type of coupler	Class			
	A	B	AA	BB
Right angle coupler	■	■	■	■
Swivel coupler	■	■	-----	-----
Parallel coupler	■	■	-----	-----
Sleeve coupler friction type	■	■	-----	-----
■ Specified class				

Detection parameters and values corresponding to different levels

Table 8 — Test parameters and specified values

Type	Property parameter		Symbols	Clause	Test parameter	COUPLER CLASS				COUPLER CONFIGURATION	
						A	AA	B	BB	AA/AA	BB/BB
						SPECIFIED VALUES					
Right angle couplers (RA)	Slipping force		$F_{s,c}$	8.2.1	$\Delta_1 \leq 7$ mm	7,0 kN		10,0 kN		10,0 kN	15,0 kN
					$1 \leq \Delta_2 \leq 2$ mm	10,0 kN		15,0 kN		15,0 kN	25,0 kN
					$1 \leq \Delta_5 \leq 2$ mm	-		-		15,0 kN	25,0 kN
	Failure force		$F_{f,c}$	8.2.2	$P_{f,ult}$	20,0 kN	30,0 kN	30,0 kN	45,0 kN	-	-
	Rotation	stiffness	$c_{\theta,MT,c}$	8.4.2	$M_T = \pm 0{,}13$ kNm	-		7,5 kNm/rad			
		moment	$M_{T,c}$		$1° \leq \theta \leq 2°$	-		0,13 kNm			
	Pull apart force		$F_{p,c}$	8.3	$P_{p,ult}$	20,0 kN		30,0 kN		-	-
	Cruciform bending stiffness on steel tube		$c_{\varphi 1,MB,c}$	8.4.1	$M_B/1{,}65 = 0{,}48$ kNm	-		15,0 kNm/rad		-	-
			$c_{\varphi 2,MB,c}$		$M_B = 0{,}8$ kNm	-		6,0 kNm/rad		-	-
	Cruciform bending stiffness on aluminium tube		$c_{\varphi 1,MB,c}$		$M_B/1{,}65 = 0{,}48$ kNm	-		13,0 kNm/rad		-	-
			$c_{\varphi 2,MB,c}$		$M_B = 0{,}8$ kNm	-		5,0 kNm/rad		-	-
	Cruciform bending ultimate moment		$M_{ult,c}$		$2M_B$	-		1,6 kNm		-	-
	Indentation		Δ_{10}	8.5	$P_{ind} = 6{,}67$ kN	≤ 1,5 mm		-		-	-
					$P_{ind} = 10{,}0$ kN	-		≤ 1,5 mm		-	-
Swivel (couplers (SW)	Slipping force		$F_{s,c}$	8.2.1	$\Delta_1 \leq 7$ mm	7,0 kN		10,0 kN		-	-
					$1 \leq \Delta_2 \leq 2$ mm	10,0 kN		15,0 kN		-	-
	Failure force		$F_{f,c}$	8.2.2	P_{ult}	14,0 kN		20,0 kN		-	-
	Indentation		Δ_{10}	8.5	$P_{ind} = 4{,}7$ kN	≤ 1,5 mm		-		-	-
					$P_{ind} = 6{,}67$ kN	-		≤ 15 mm		-	-
Parallel Coupler (PA)	Slipping force		$F_{s,c}$	8.2.1	$\Delta_1 \leq 7$ mm	7,0 kN		10,0 kN		-	-
					1 mm $\leq \Delta_2 \leq 2$ mm	10,0 kN		15,0 kN		-	-
	Failure force		$F_{f,c}$	8.2.2	P_{ult}	20,0 kN		30,0 kN		-	-
	Indentation		Δ_{10}	8.5	$P_{ind} = 6.67$ kN	≤ 1,5 mm		-		-	-
					$P_{ind} = 10.0$ kN	-		≤ 1,5 mm		-	-
Sleeve coupler (SF)	Slipping force		$F_{s,c}$	8.2.1	$1 \leq \Delta_2 \leq 2$ mm	6,0 kN		9,0 kN		-	-
	Bending moment		$M_{B,c}$	8.4.3	$\Delta_4 = 5$ mm	-		1,4 kNm		-	-

EN74-1：2005（E）download.

EK Scaffolding coupler testing report download.