



# Carbide Ring Rolls for Steel Mills

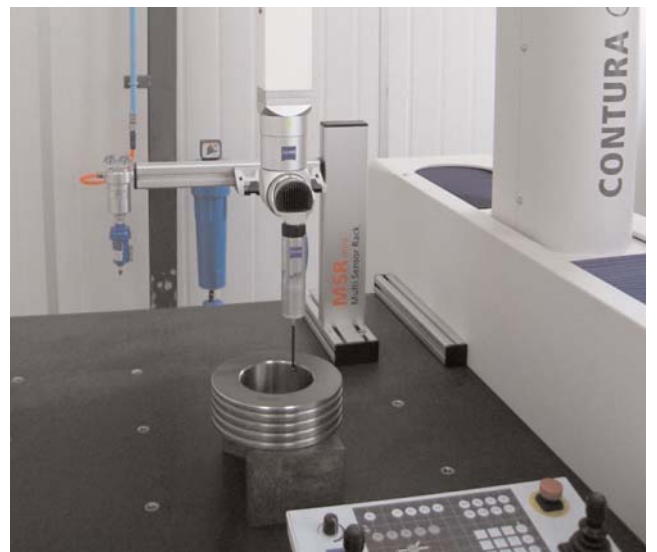
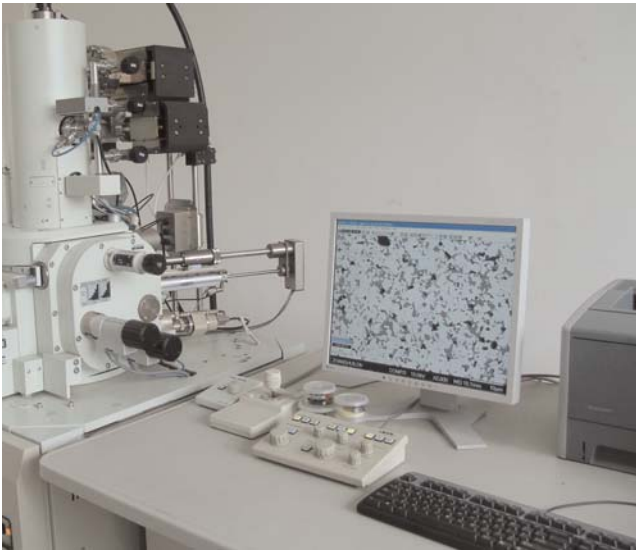
**CR30** (15% Co, Ni, Cr)

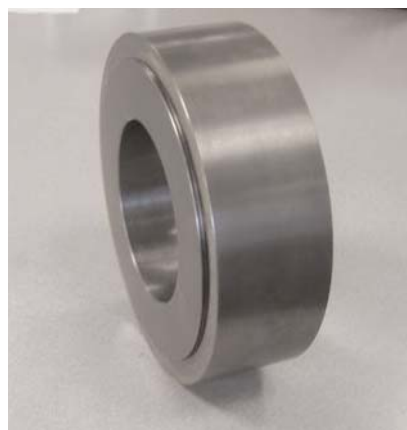
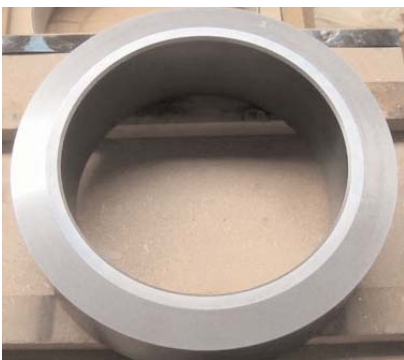
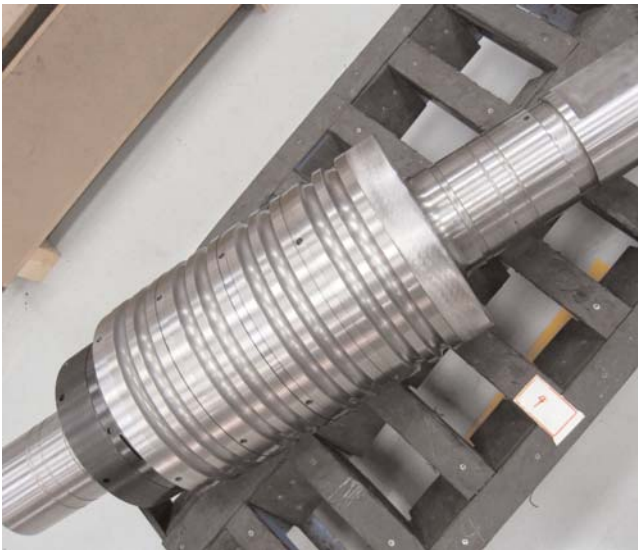
**CR45** (20% Co, Ni, Cr)

**CR60** (30% Co, Ni, Cr)





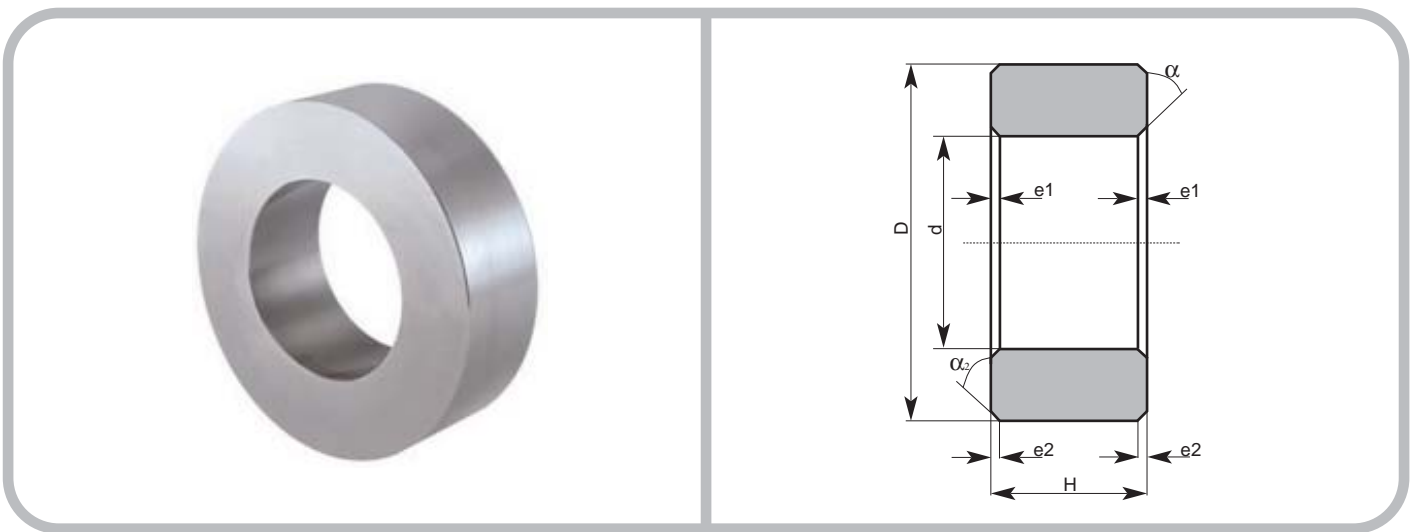




# Technical Information

## Grade

<b>CR30</b>	(15% Co, Ni, Cr)
<b>CR45</b>	(20% Co, Ni, Cr)
<b>CR60</b>	(30% Co, Ni, Cr)



mm

(D) Rang of O.D.	(d) Rang of I.D.	(H) Rang of height
145 - 450	87 - 280	62 - 150

**Note:** We can supply according to the drawings provided by customers. The allowable deviation in external diameter, internal diameter and height is to be determined based on customers needs.

Installed on the front stands of machines for rolling rebars and rods composite roll rings can substantially reduce the times of groove changes and roll changes, reduce labor intensity, increase productivity, improve surface quality and yield of rolled material, thus achieving outstanding economic benefits.

- Special cemented carbide grades CR60 are used for hot rolling bars and rebars.
- With hydraulic nuts locking devices and in-feed of oil with a pressure of 100-200MPa, the hydraulic nuts create an axial pretightening force of 500-1500KN and fasten the cemented carbide rollers to the shafts. The devices are practical in use and reliable and they can insure higher performances of composite cemented carbide rollers under the protection of a proper preload stress.
- Various cemented carbide rollers are available with diameters of 300-450mm and thicknesses of 30-150mm for bar reducing and sizing machines.
- Various composite cemented carbide rollers for hot rolling bars and rebars.
- Service is to be available for the design, groove machining and rib notching of composite cemented carbide roll rings.
- Various compatible tools can be provided for machining composite cemented carbide rollers.

# Grades and Properties

## Grade recommendations

Grade	Intermediate stands		Finishing black									
	16	17	18	19	20	21	22	23	24	25		
CR60 / CH60	●		○	○								
CR55 / CH55			○	○								
CR45 / CH45			●	●	●	●						
CR30 / CH30				○	○	●	●	●	●	●	●	
CR20 / CH20						○	○	○	○	●	●	
CH05										●	●	

● = 1st recommendation  
○ = 2nd recommendation

## Grade data standard rolls

Grade	Chemical composition		Mechanical properties						
	Co+Ni+Cr %	WC %	Hardness HRA	Transverse rupture strength MPa	Compressive Strength MPa	Young's modulus of elasticity KN/mm <sup>2</sup>	Density g/cm <sup>3</sup>	Thermal conductivity Cal/cm sec/°C	
Mixed Binder Co Ni Cr	CR20	10	90	87.2	2730	3400	550	14.49	0.2
	CR25	12.5	87.5	85.6	2780	3300	540	14.21	0.22
	CR30	15	85	84.4	2700	3200	530	14.03	0.2
	CR40	18	82	83.3	2640	3200	480	13.73	0.2
	CR45	20	80	81.5	25.70	3000	430	13.53	0.18
	CR55	25	75	79.8	2550	2800	420	13.02	0.17
	CR60	30	70	79.2	2480	2600	300	12.68	0.16
Pure Cobalt Co.	CH05	6	94	88.5	2600	3700	565	14.90	0.2
	CH10	8	92	87.5	2750	3500	560	14.70	0.2
	CH20	10	90	87	2710	3500	560	14.47	0.2
	CH25	12	88	86	2700	3400	550	14.25	0.21
	CH30	15	85	84.9	2700	3300	540	14.02	0.2
	CH40	18	82	83.8	2720	3200	500	13.73	0.19
	CH45	20	80	83	2700	3100	480	13.54	0.18
	CH55	26	74	81.5	2530	3000	450	13.05	0.17
	CH60	30	70	81	2630	3000	420	12.71	0.16

Note: The above properties data are typical.

\* Grain size from 3 to 5 μm depending on the application.





**Comadex Cutting Tools BV**

info@comadex.nl

www.comadex.nl