Tungsten Carbide Cold Rolls

Specifications



Type	Function	Position
RO	Oval reducing	First set of a reduction cassette
RT	Round reducing	Second set of a reduction cassette
CA	Sizing to final diameter	Finishing set for plain-round wire
FO	Forming the section before ribbing	First set of a ribbed finishing cassette
PR	Profiling — rolls the ribs	Last set for ribbed wire

A two-cassette line runs RO + RT in the first cassette, then RO + CA for plain wire or FO + PR for ribbed wire. Reducing and sizing sets are three rings; the ribbing set is three rings for three-sided ribs and two for two-sided ribs. Full detail, including what two passes change, is on the cold rolling cassettes page.

Carbide grades

Grade	Co %	WC %	Density g/cm³	Hardness HRA	TRS MPa
YG15	14.9	85.1	13.95–14.15	≥ 86.5	≥ 2,220
YG16C	16	84	13.80–14.00	≥ 84.0	≥ 2,480
YG20	20	80	13.45–13.65	≥ 83.5	≥ 2,480

All three grades are used for both reducing and ribbing sets; in practice the grade is not assigned by ring position. Our recommendation: lower cobalt (YG15) where wear sets ring life, higher cobalt (YG20)

where rings crack or chip before they wear — typically the heavier-loaded sets on a two-cassette line. Tell us which set is failing and how, and we will suggest the grade. Every quote comes with the grade data sheet, and a composition statement for ISO 14000 environmental audits is available on request.

The mill matters too. A rigid, precisely set mill spreads the load evenly and can run a harder grade; a less rigid mill, with more shock and misalignment — common on older three-roll cassettes — needs a tougher one.

Sizes

- Finished wire: typically 3–16 mm (down to 2.5 mm on request).
- Ring thickness: 15 mm rings for finished wire up to about 9 mm and 20 mm rings above that; 25 mm-thick rings for finished sizes above 14 mm. Where tonnage is low, 15 mm rings can run a little above 9 mm, with a shorter life.
- Two-sided ribs use paired rings, two to a set; three-sided ribs use a three-ring set with different ring dimensions and angles. Under GB 13788-2024 that means a three-ring set for CRB550 and CRB650 and a two-ring set for CRB600H; tell us the grade you make and we will match the set.
- Rib and groove profiles can be made to DIN 488, BS 4483, the New Zealand indented-wire standard or your own drawing, and one ring can carry grooves for more than one wire size. We confirm the rib direction with you by photo before production.

Ring dimensions follow the mill model. You do not need to measure anything: give us the model, or the rod and finished diameters, and we match the full ring sequence.