

Carbide Grade Specifications

(As of 1/11/2025)

Grade	Co %	WC %	TaC %	Grain Size	Hardness (RA)	Density	Applications / Notes
R6	6	94	-	Fine	91.3 - 92.3	14.95	Traditional Industry C-2 / Light Shock / Heavy Wear
R6M	6	94	-	Sub Micron	92.5 - 93.5	14.95	100% Virgin Grade / Light Shock / Heavy Wear
R9	9	91	-	Fine	89.5 - 90.5	14.63	Stamping Dies / Medium Shock / Heavy Wear
R10M	10	90	-	Sub Micron	91.4 - 92.4	14.41	100% Virgin Grade / Excellent Wear / Light Shock
R11C	11	89	-	Fine / Coarse	89.0 - 90.5	14.35	Stamping Dies / High Wear Cold Heading Dies
R11CT	11	87	2	Fine / Coarse	89.0 - 90.5	14.22	Extrusion Punches / Ammunition Punches & Dies / Galling Resistant
RD40	12.5	87.5	-	Medium	88.0 - 89.5	14.28	Heavy Shock / High Wear Header Dies & Tablet Tooling
R13CT	13	84	3	Fine / Coarse	88.0 - 89.5	13.96	Heavy Shock / High Wear Dies & Punches / Galling Resistant
R15M	15	85	-	Sub Micron	89.5 - 91.0	13.92	Sub Micron Grade / Excellent Wear / Medium Shock
R15VT	15.5	81.5	3	Medium	86.0 - 87.0	13.78	100% Virgin Grade / Easier to Machine Than RD50
RD50	15.5	84.5	-	Med / Coarse	87.5 - 89.0	13.99	Light Impact Cold Heading / Trap Extrusion Dies
R17	17	83	-	Med / Coarse	85.5 - 86.5	13.83	Higher Wear / Lower Impact Than 20% Grades
R20	20	80	-	Coarse	84.0 - 85.5	13.58	Medium Impact Cold Heading
R20V	20	80	-	Coarse	84.0 - 85.0	13.58	100% Virgin Grade / Higher Temp WC
RD60	20	77	3	Coarse	84.0 - 85.5	13.38	Cold Heading Higher Tensile Materials
R20VT	20	77	3	Coarse	84.0 - 85.0	13.38	100% Virgin Grade / Easiest 20% Grade To Machine
R20VTH	20	77	3	Medium	85.5 - 86.5	13.38	Higher Wear Version of R20VT
R25	25	75	-	Coarse	82.5 - 84.0	13.15	Heavy Impact / General Purpose Cold Heading
R25H	25	75	-	Medium	83.5 - 85.0	13.15	Higher Wear Version of R25 / Head Marking Stamps
R25V	25	75	-	Coarse	82.5 - 83.5	13.15	100% Virgin Grade / Cold Heading & Impact Applications
RD70	25	72	3	Coarse	82.5 - 84.0	12.96	Cold & Hot Heading Higher Tensile Materials
R25VT	25	72	3	Coarse	82.5 - 83.5	12.96	100% Virgin Version of RD70 / Highest Performance Dies
R25VTH	25	72	3	Medium	83.5 - 85.0	12.96	Higher Wear Version of R25VT - 100% Virgin Grade
RD80	30	70	-	Coarse	80.5 - 81.5	12.75	Extreme Impact / Cold Heading Spline or Flat Head Screws

