

# Carbide Grade Specifications

(As of 5/8/2019)

Grade	Co %	WC %	TaC %	Grain Size	Hardness (RA)	Density	Applications / Notes
R6	6	94	-	Fine	91.3 - 92.3	14.95	100% Virgin Grade / 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 - 92.2	14.41	100% Virgin Grade / Excellent Wear / Light Shock
R11	11	89	-	Medium	89.0 - 90.0	14.30	Stamping Dies / High Wear Cold Heading Dies
RD40	12.5	87.5	-	Medium	88.0 - 89.0	14.28	Heavy Shock / High Wear Cold Heading Dies
R15M	15	85	-	Sub Micron	89.5 - 91.0	13.95	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	86.3 - 87.3	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	13.60	Medium Impact Cold Heading
R20V	20	80	-	Coarse	84.0 - 85.0	13.60	100% Virgin Grade / Higher Temp WC
RD60	20	77	3	Coarse	84.0 - 85.5	13.45	Cold Heading Higher Tensile Materials
R20VT	20	77	3	Coarse	84.0 - 85.0	13.45	100% Virgin Grade / Easiest 20% Grade To Machine
R20VTH	20	77	3	Medium	85.5 - 86.5	13.45	Higher Wear Version of R20VT
R25	25	75	-	Coarse	82.5 - 84.0	13.16	Heavy Impact / General Purpose Cold Heading
R25H	25	75	-	Medium	83.5 - 85.0	13.16	Higher Wear Version of R25
R25V	25	75	-	Coarse	82.5 - 83.5	13.16	100% Virgin Grade / Higher Temp WC
RD70	25	72	3	Coarse	82.5 - 83.5	13.05	Cold & Hot Heading Higher Tensile Materials
R25VT	25	72	3	Coarse	82.5 - 83.5	13.05	100% Virgin Grade / Easiest 25% Grade To Machine
R25VTH	25	72	3	Medium	83.5 - 85.0	13.05	Higher Wear Version of R25VT - 100% Virgin Grade
R27	27	73	-	Coarse	81.3 - 82.3	13.00	Equivalent of D-76 / Extreme Impact
RD80	30	70	-	Coarse	80.5 - 81.5	12.75	Extreme Impact / Cold Heading Spline or Flat Head Screw

