



Technical Information: RWL-34

RWL-34 is a premium powdered metal tool steel supplied by DAMASTEEL®.

RWL-34 has a minimum 13% chromium with the addition of molybdenum and vanadium for improved corrosion resistance.

RWL-34 is characterized by high hardness , excellent resistance to corrosion, and excellent polishability

Typical Chemical Composition

Carbon	1.05%	Chromium	14.00%
Molybdenum	4.00%	Silicon	0.50%
Vanadium	0.20%	Manganese	0.50%

SBSM Tool Steel Properties Comparison

Mechanical Properties

Proof Strength.....	270 MPa
Tensile Strength.....	700 MPa Max
Elongation.....	45%
Impact Value.....	60 Joules

Physical Properties

Modulus of Elasticity.....	30 psi x 10 ⁶(207 GPa)
Density.....	0.283 lb/in ³
Annealed Hardness.....	250-300 Brinell Hardness (BHN)
Machinability.....	Similar to 440C Stainless Steel



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Heat Treatment

Annealing

Heat to 1400°F, hold five hours
 Slow cool 25°F/hour to 1000°F
 Then air or furnace cool to room temperature

Stress Relieving

Performed prior or after machining to minimize distortion in heat treating
 1100/1200°F, hold two hours
 then air cool to room temperature

Hardening

Salt bath, protective atmosphere, or vacuum furnace equipment preferred.

High Heat (Austenitizing)

1900/2000°F for 20 minutes at heat.

Quench

Salt bath quench to 1000-1100°F, equalize, then air cool to 150°F.
 Vacuum or atmosphere quench rate of a minimum 50 degrees F per minute down to 1200F is critical to achieve best heat treat response.
 Cool to 150°F.

Temper immediately following quench

Tempering

Double tempering is required, triple tempering recommended.
 Air cool to room temperature between tempers.

Typical Heat Treat Response

Hardening Temp		Tempering Temp		Hardness
°F	°C	°F	°C	HRC
1920	1050	430	220	59
		345	175	62

Thermal Conductivity

W/m, degree C

Room T

200 F

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