

SuperDie™

Hot Work Tool Steel

Data Sheet
~W.No. 1.2367 - X38 CrMoV5-3

Typical Applications

- Tooling for Die Casting
- Aluminum and magnesium extrusion dies
- Die inserts and forging dies
- Plastic Mold Dies
- Cores, sleeves and slides

Delivery Condition

- Annealed to 235 BHN max.
EFVD, ESR or VAR
- Non-NADCA: **SuperDie™**
- NADCA Grade C: **SuperDie™ XFS, ESR or VAR**

SuperDie™ exhibits higher strengths and surface hardness at room temperature than H13 and H11 type alloys when tempered at identical tempering temperatures.

SuperDie™ also resists softening at elevated operating temperatures better than H13 and H11 (see figure). The high temperature strength and tempering resistance. Its balanced composition allows **SuperDie™** to reach a higher toughness than standard 1.2367.

SuperDie™ has an excellent combination of high strength and toughness and can reach hardnesses typically in the range of 42 to 52 HRC with standard hardening procedures by most vacuum heat treating operations.

Chemical composition in %

C	Mn	Si	Cr	Mo	V
0.35	0.45	0.25	5.05	2.40	0.55

SuperDie™ is forged using a special densifying process which assures optimum consolidation of centers.

SuperDie™ is forged on our largest presses equipped with wide dies assuring maximum deformation during forging process.

SuperDie™ is characterized by:

- Improved wear resistance
- Improved temper resistance
- Improved fracture toughness
- High temperature strength
- High impact resistance

SuperDie™ is 100% ultrasonic tested to very high standards. It is defect free.

SuperDie™ can be supplied pre-certified to NADCA standard #207 Grade C (**SuperDie™ XFS ESR or VAR**) on request.

™ Finkl Steel Trademark

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Heat treatment

Annealing

Temperature: 1500–1550°F (815–845°C)
Rate of cooling: 25°F (15°C) max. per hour.

Annealed hardness: 235 BHN max.

Key parameters of the NADCA recommended procedure for hardening dies for die casting service are:

Hardening

Rate of heating: slow
Preheat Temperature: 1200–1300°F (650–705°C)
Hardening Temperature: 1850–1885°F (1010–1030°C)
Soaking time: 30–45 minutes
Quenching to 300°F (150°C)

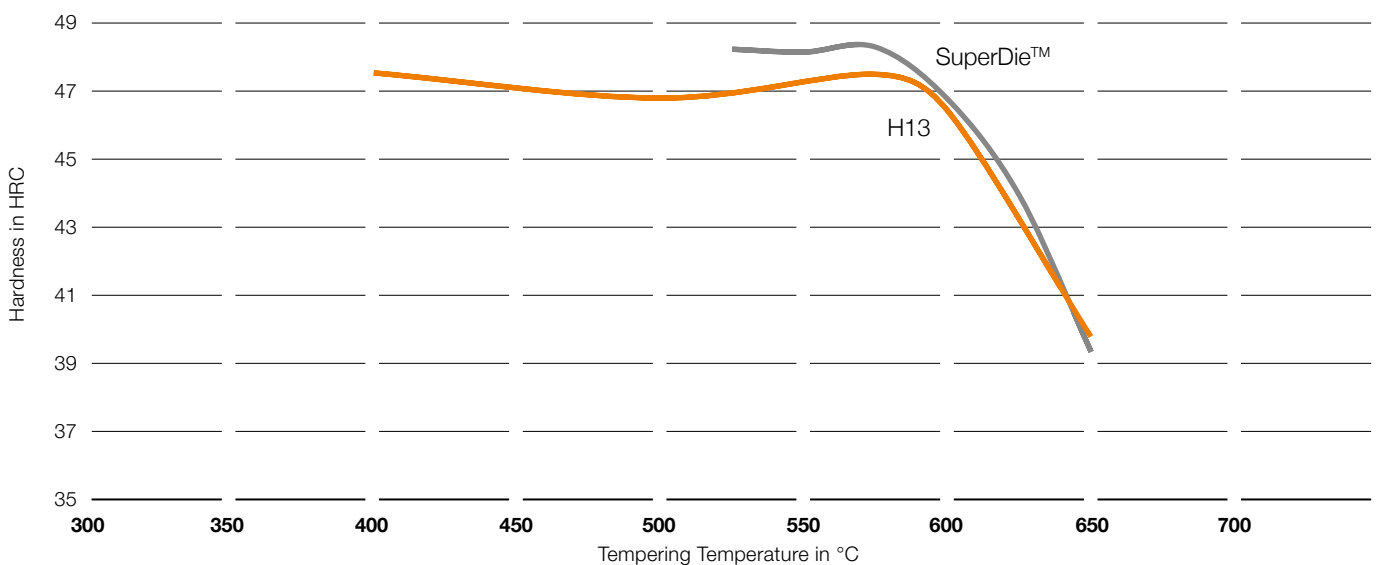
Tempering

Tempering Temperature 1050°F (565°C) minimum

Stress Relieving

Temperature: 50–100°F (30–55°C) below final tempering temperature and slow cool to 875°F (470°C), then air cool.

Tempering



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CCT SuperDie

