



FINKL DC®

~AISI H13 - W.Nr. 1.2344 - X40CrMoV5-1

HOT WORK TOOL STEEL

TYPICAL APPLICATIONS

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

GENERAL

Delivery Condition:

Annealed

Quality Levels:

DC®: Quality for Insert or Die Cavities for Hot Forging or Molding

DC®Q VAR or ESR: High Polishing Quality for Plastic Molding

DC® - Premium: Fine Structure Quality for Low Pressure Die Casting NADCA Grade A

DC® - Superior: Remelted Fine Structure Quality for High Pressure Die Casting NADCA Grade B

FINKL DC® is a high quality tool steels with high impact and shock resistance. It also has good wear resistance at high temperature.

FINKL DC® is suitable for many hot work and cold work applications like hot heading, hot forging, hot punching, hot piercing, hot trimming dies, heavy duty hot and cold shear blades, forming tools and bending tools.

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

Typical Chemical Analysis - % weight

C	Mn	Si	Cr	Mo	V
0.38	0.35	1.00	5.25	1.50	1.00

FINKL DC® is forged using a special densifying process which assures optimum consolidation of centerline of tooling.

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

All Quality Levels of **FINKL DC®** are characterized by :

- Improved wear resistance
- High temperature strength
- High impact resistance

In addition, **DC®Q** has:

- Highest Polishability for lasting mirror finish

DC® - Superior: has further improved impact properties for the highest requirements.

FINKL DC® is 100% ultrasonic tested to very high standards and acceptance levels. It is defect free.

FINKL DC® can be supplied pre-certified to NADCA standard #207 on request.

®Finkl Steel Trademark

DATA SHEET

HOT WORK TOOL STEEL

FINKL DC®

HEAT TREATMENT

ANNEALING

Temperature: 1500-1550°F (816-843°C)
Rate of cooling: 25°F (14°C max per hour Typical)
annealed hardness: 187-223 BHN

Key parameter 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: 1875-1895°F (1025-1035°C)
Time at temperature: 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.



FINKL STEEL offers select customers the opportunity to participate in the Finkl Partner Program, a Web-based system that allow for:

- Online quoting and ordering
- Real-time order tracking
- Customized report generation

Contact your Finkl representative to learn more about online business services.

Finkl Steel—Chicago

1355 E. 93rd Street
Chicago, IL 60619
773.975.2510
TOLL-FREE: 800.621.1460
FAX: 773.348.5347
www.finkl.com

Finkl Steel—Sorel

100 McCarthy Street St-
Joseph-de-Sorel, QC,
Canada J3R 3M8
450.746.4122
TOLL-FREE: 800.363.9484
www.sorelforge.com

Finkl Steel—Composite

2300 W. Jefferson Avenue
Detroit, MI 48216
313.496.1226
TOLL-FREE: 800.521.0520
www.compforge.com

Note: Provided technical data and information in this data sheet are typical values. Normal variations in chemistry, size and conditions of heat treatment may cause deviations from these values. We suggest that information be verified at time of enquiry or order. For additional data or metallurgical assistance, please contact us.

SIZE

(Finished / approx.)

Max weight	16 330 kg	36 000 lbs
Max section	0.90 m ²	1 400 sq in
Max width	1 270 mm	50"
Max thickness	760 mm	30"



FINKL STEEL