



BICO STEEL

Elite P20 HH

BICO P20 HH is a premium mold steel that meets or exceeds standards for grade AISI P20 HH.

Material Properties

Prehardened steel for medium and very large-size molds and tools with good machinability. Consistent texturing and polishing improved by very low sulphur content. Reliable repair welding and excellent colormatch capability.

For which tools

Plastic injection mold cores and cavities, large-size molds for bumpers, dashboards, television panels, bottle crates, etc.

For which plastics

Thermoplastics, long fiber reinforced thermoplastics (LFT), thermosetting plastics, ABS, transparent melts. Injection molding, compression molding, RIM molding, etc.

Chemical Analysis - % Weight

C	Si	Mn	S	Ni	Cr	Mo	B
0.26	0.10	1.50	0.002	0.30	1.60	0.65	+

Delivery Condition

BICO Elite P20 HH is delivered quenched and tempered to 320 - 350 HB (34 - 38 HRC).

Test Thickness	Test Hardness	Yield Strength	Tensile Strength
15.75"	37 HRC	136 ksi	159 ksi

Physical Properties

		77°F	212°F	392°F	572°F
Thermal expansion coefficient (from 77°F)	10 ⁻⁶ /°F		5.9	7.0	7.3
Thermal Conductivity	Btu inch/ft ² -h-°F	271	265	263	248
Young Modulus	kN/mm ²	205			

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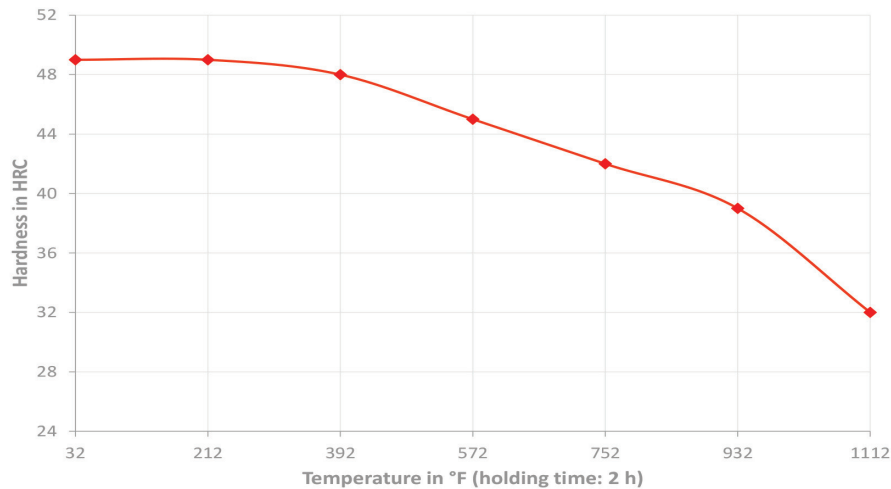
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Heat Treatment

BICO Elite P20 HH is delivered ready for use. Please contact us for further information about heat treatment.

	Temperature	Soaking Time	Cooling
Stress Relieving	960 °F	30 min. per inch	Air or Furnace
Hardening	1650 °F	30 min. per inch	Gas, Salt Bath, Water
Tempering	See Tempering Chart	60 min. per inch	Air or Furnace



NOTE: Water quenching
Sample size: 2" x 2"

Welding

Cores and cavities can be polished and/or textured following welding data provided below. Please consult the user guide for detailed information.

Process	Filler Material	Preheating	Post Heating	PWHT
GTAW	SP P20 HH WELD-E AISI 4130	min. 302 °F	302 °F-2h	1020 °F-2h

Typical Delivery Sizes

Manufacturing Process	Thickness	Width
Hot Rolling	0.59 - 5.90"	39.37 - 78.74"
Hot Forging	5.90 - 39.37"	47.24 - 98.42"

NOTE: Technical data and information are to the best of our knowledge at the time of printing. However, they may be subject to some slight variations due to our ongoing research program on steels. Therefore, we suggest that information be verified at time of enquiry or order.

Furthermore, in service, real conditions are specific for each application. The data presented here are only for the purpose of description, and considered as guarantees when written formal approval has been delivered by our company.