

HOT WORK TOOL STEELS

Application Segments

Hot Work

Available Product Variants

Open Die Forgings

Product Description

BÖHLER W751 ISOBLOC is not a classic hot work tool steel, but a hardenable steel with an austenitic structure. Compared to quenched and tempered steels, the material does not generate its strength through a hardening structure with high carbon content and secondary hardening carbides, but through the precipitation of intermetallic phases from a tough austenitic matrix. BÖHLER W751 ISOBLOC is a chemically modified version of material number 1.2779 (X6NiCrTi26-15) and has proved to be ideally suited for many tool steel applications in cold and hot work (e.g., for extrusion liners) up to 750 °C and is therefore an economic alternative to superior nickel base alloys.

Process Melting

Airmelted + Remelted

Applications

> Extrusion

Technical data

Material designation	
~1.2779	SEL
~X6NiCrTi26-15	EN

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni	V	Ti	Al
0.02	≤ 0,20	1.4	15	1.25	25	0.3	2.8	0.25

Delivery condition

Solution annealed + precipitation hardened

Hardness (HB)	310 to 370
Tensile Strength (MPa)	min. 1,050 min.

Physical Properties

Temperature (°C)	20
Density (kg/dm ³)	7.95
Thermal conductivity (W/(m.K))	14
Specific heat (kJ/kg K)	0.465
Spec. electrical resistance (Ohm.mm ² /m)	0.85
Modulus of elasticity (10 ³ N/mm ²)	206

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C)	100	200	300	400	500	600	700
Thermal expansion (10 ⁻⁶ m/(m.K))	16.5	16.8	17.1	17.3	17.5	17.7	18

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.