

DieCast One



ESR – SPECIAL ALLOY FOR DIE-CAST ALUMINIUM



The latest ESR plant at the BGH-Lippendorf site with a crucible diameter of up to 1,300 mm enables the production of larger dimensions combined with the highest degrees of purity and optimum microstructure over the entire cross-section.



DieCast One

The set of stresses on an aluminium die casting mould is versatile and demanding. High melting temperatures, extreme thermal shock loads, high flow pressures and the strong abrasive effect of the molten aluminium put highest demands on the mould steel. The required property profile of the mould steel therefore includes high thermal conductivity, a low coefficient of thermal expansion, high hardness - without losing its toughness -, very good microstructural homogeneity and an excellent level of micro- cleanliness. This combination of desired properties is achieved by the remelting (ESR) hot work tool steel **DieCast One**. Through an optimized chemical composition as well as state-of-the-art melting and casting processes, coupled with a high reduction ratio and matched heat treatment. **DieCast One** meets all requirements of the US Die Casting Association (NADCA) both in the as-delivered condition and after hardening. It is thanks to toughness values far above the standard requirements, making **DieCast One** the steel of choice for tools of larger dimensions.

DieCast One is a key building block in the cost-effective die casting of complex components made from aluminium alloys.

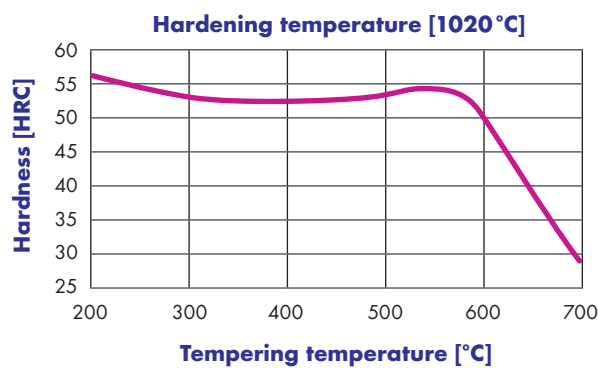
SERVICE

BGH Edelstahlwerke delivers **DieCast One** exclusively from our own production in Germany with a strict quality control and all necessary certificates. Through our service centers we guarantee short delivery times, technical assistance, and short distances in the most important tool steel markets of the world.



Typical composition [%]								
	C	Si	Mn	P	S	Cr	Mo	V
DieCast One	0,37	0,35	0,30	≤ 0,015	≤ 0,003	5,10	2,25	0,55

TEMPERING DIAGRAM



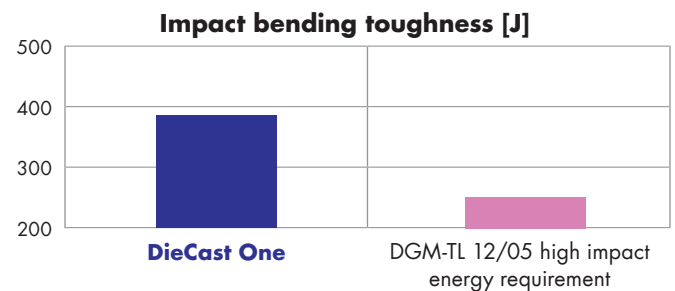
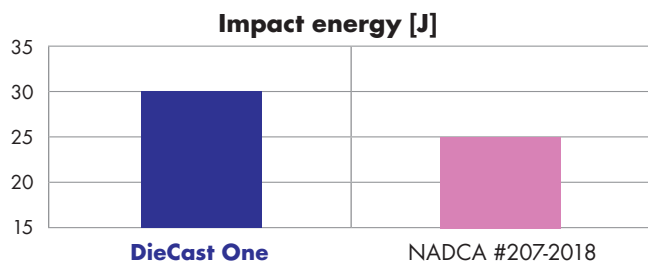
CLEANLINESS MAX. ASTM E45 METH. A

Inclusion Type	thin	heavy
A (sulfide)	0,5	0,5
B (aluminide)	1,5	1,0
C (silicate)	0,5	0,5
D (globular oxides)	1,5	1,0

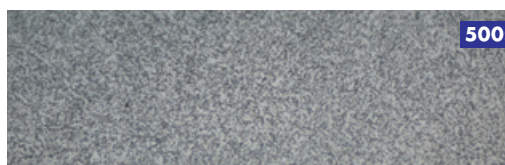
DIN 50602 K1 ≤ 10

Cleanliness level and toughness values outperform the requirements of NADCA #207-2018

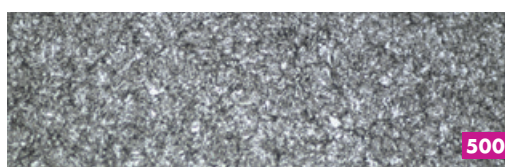
IMPACT TOUGHNESS VALUES



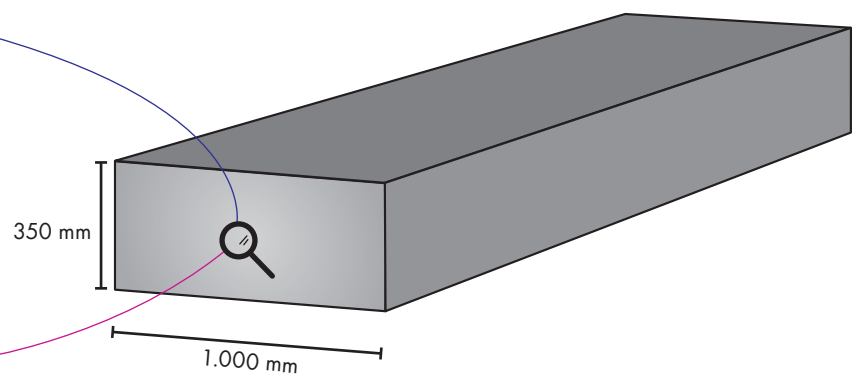
MICROSTRUCTURE (CORE SAMPLE)



Annealed condition



Quenched and tempered condition



All information given is unbinding and serves as a first orientation. Liability is excluded.



Boschgotthardshütte (BGH), with its headquarters in Germany and six production sites in Europe, is an owner-managed manufacturer of stainless steel long products and nickel alloys. Our fully integrated production process – from the melt to the final product – guarantees stainless steels that meet the highest de-

mands. The product portfolio ranges from fine wire to forged bars as well as open-die forgings. A wide range of stocks enables reliable and flexible fulfilment of short-term orders. Our international distribution network and service facilities guarantee worldwide availability.

**WORLD CLASS SERVICE WITH
GERMAN COMMITMENT TO QUALITY AND TECHNOLOGY**

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