



Abrasion- and heat-resistant material EUCOR

Eucor is a material produced by smelting of suitable raw materials and by subsequent crystallizing of the produced molten mass. The resulting product is a three-phase system consisting of corundum, baddeleyite and glass phase. This final product features excellent properties, especially hardness, resistance against high temperatures and chemical corrosion.

The company Eutit, s.r.o., has launched the **Eucor** material to meet the needs of its customers in solving cases of extreme stress by high abrasion and possible combined temperature stress, in which otherwise excellent cast basalt is already not sufficient.



Use

Due to their high hardness, Eucor castings find their use in the conditions of extremely high abrasive stress such as pneumatic transport of flue ash, silica sand, limestone, biomass, etc. Especially exposed places - bends and shaped sections of ducts (reductions, T-, Y-pieces) - should better be made of Eucor for its longer service life. Other examples include the lining of separators, chutes, en-masse conveyors, mixers, cyclones, etc.

The high-temperature resistance of Eucor enables it to be used at places of coke ramps stressed by higher temperatures. Its heat resistance can be used with advantage on coal feeding ducts of power plant boilers. Chemically resistant lining of tanks, reactors. Special shaped pieces used for production of wires.



Chemical resistance

The extraordinary chemical resistance of this material against a majority of acids and lyes is proven by results of laboratory tests.

Our castings were tested during boiling
 - in sulphur acid, where their mass loss equalled to 0.75 % (ČSN EN 993-16)

- 1.5% mass loss was measured in sodium hydroxide (ČSN 725 122)

Mineralogical composition	mass %
corundum	48 - 50
baddeleyite	30 - 32
glass phase	18 - 20



Physical properties of Eucor	
density (kg.m.-i) - ČSN EN 993-2	3850 - 3900
actual porousness (volume %) - ČSN EN 993-1	max.10
constant temperature of use (°C)	1000-1100
resistance against deformation in heat at 0.2 MPa (°C)	1700
resistance against temperature shocks (DIN 51068, cycl.)	min.20 (950/20°C)
wearability (DIN 52108, cm ³ /50 cm ²)	max. 0.75
abrasion resistance (EN 102, mm ³)	max. 30
Mohse hardness - ČSN EN 101	grade 9
Vickers hardness (HV MPa) - ISO 403-1	min. 950
compression strength (MPa) - ČSN EN 993-5	min. 300
bending strength (MPa) - ČSN EN 993-6	min.50

