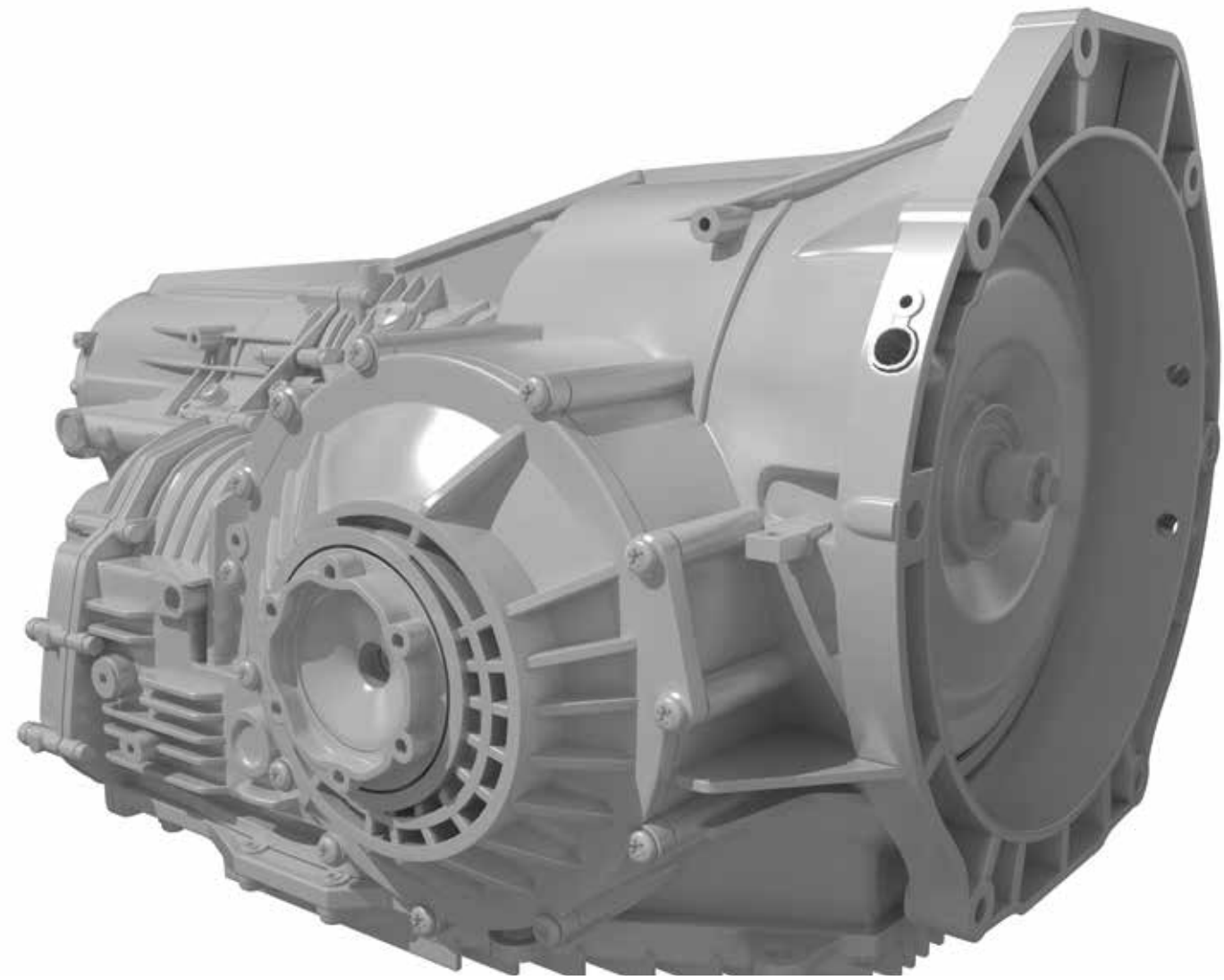
TG Steels



TMFE 23A

3D PRINTING POWDER FOR DIE CASTING MOLDS

TFME 23A is a 3D printing powder used in die-casting molds. Hot-work molds operate in harsh environments, with their working surfaces subjected to cyclic stamping loads, temperature differences, and frictional wear. This can easily lead to mold wear, fracture, thermal fatigue, and cavity collapse, severely reducing the mold's lifespan. Therefore, the surface of hot-work molds must possess excellent thermal stability and wear resistance.

TFME 23A, as a hot-work mold steel material, possesses high strength, hardness, and red hardness, while also exhibiting good thermal conductivity and high fatigue resistance. TFME 23A mold steel powder is primarily used in the 3D printing of die-casting molds.

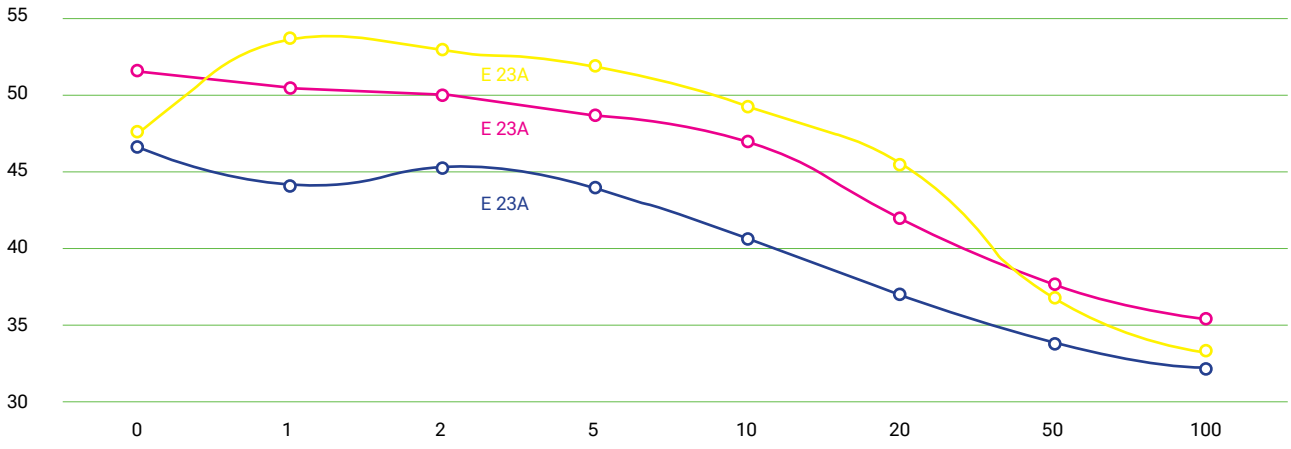
Range of chemical composition

C	Si	Mn	Cr	Mo	V	Bal
0.25-0.30	0.10-0.30	0.30-0.50	4.70-5.20	3.00-3.50	0.30-0.60	≤3.00

Physical properties

Granularity range	15-53 μm
Hardness after heat treatment	44-53 HRC
Hallflow rate	≤18 s/50 g
Loose packing density	4.2 g/cm^3
Heat conductivity	34.5 W/m·K
Impact energy (1030°C + 615°C x 2)	36.6 J
Ensile strength (1030°C + 590°C x 2)	1649.6 MPa

The high-temperature stability curve is as follows



TG STEELS
E info@tgsteels.com **W** www.tgsteels.com