



Canada
SPECIAL STEEL INC

TFME 23B

LASER CLADDING
MOLD REPAIR



Hot-work dies operate in harsh environments. The working surface of the die is affected by cyclic stamping loads, temperature differences, and frictional wear, easily leading to failures such as wear, fracture, thermal fatigue, and cavity collapse, severely reducing the die's service life.

Therefore, the surface of hot-work dies must possess good thermal stability and wear resistance. Under these service conditions, traditional repair methods often result in large workpiece deformation, low bonding strength, and environmental unfriendliness.

TFME 23B offers advantages such as high bonding strength, good wear resistance, dense coating quality, minimal substrate deformation, and environmental friendliness through laser cladding. Furthermore, laser cladding of TFME 23B exhibits excellent thermal stability.

Compared to traditional die steel repair processes, laser cladding repair offers superior wear die repair results, high remanufacturing capacity, and low repair costs, demonstrating better bonding strength and thermal stability, effectively extending the die's service life.

Range of chemical composition

C	Cr	Ni	Mo	Mn	Si
≤0.40	≤5.20	≤0.25	≤2.50	≤0.50	<0.40

Physical properties

Granularity range	53-150 μm
Hardness	55-57 HRC
Hallflow rate	≤16 s / 50 g
Loose packing density	4.34 g/cm ³

High temperature hardness / 550°C

20	40	60	80	100
54 HRC	52.9 HRC	52.9 HRC	52.7 HRC	52.2 HRC