CONCEPTLASER

CL 91RW Stainless hot-work steel

Stainless hot-work steel (powder)

CL 91RW is a hard stainless steel with high chrome content. This material is used for production of mould components for high volume injection moulding. Furthermore the material can also be used for stainless functional components with high loads.

26 **Fe** 55,847



RANGE OF APPLICATION

Tool inserts with conformal cooling for the production of medical or chirurgical instruments as well as for packaging used in food and pharmaceutical industries.

TECHNICAL DATA AFTER RECOMMENDED HEAT TREATMENT

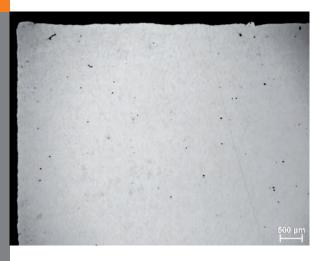
Yield Point R _e ¹	approx. 1.600 N/mm ²
Tensile Strength R _m ¹	approx. 1.700 N/mm ²
Elongation A 1.2	> 2 %
Young's modulus ³	approx. 200.000 N/mm ²
Thermal conductivity λ 3	approx. 18 W/mK
Hardness ⁴	48 - 50 HRC

¹ Tensile test at 20°C according to DIN EN 50125

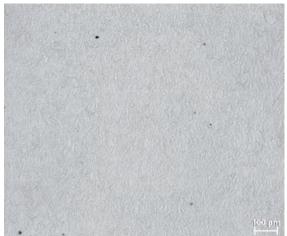
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MICROSECTION

Test piece (x 20 magnification)



Test piece (x 100 magnification)



HEAT TREATMENT

Heat up with 100°C/h to 530°C. Maintain temperature for 4 hours. Allow the components to cool down in the oven with 100°C/h.

MICROSTRUCTURE

Components made from stainless hot-work steel CL 91RW display a homogeneous, dense structure after they are manufactured by means of the metal laser melting process LaserCUSING®.

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² By using a special heat treatment a higher elongation can be achieved.

³ Specification according to the material manufacturer's data sheet.

⁴ Hardness test according to DIN EN ISO 6508