

EOS CaseHardeningSteel 20MnCr5
for EOS M 290

EOS CaseHardeningSteel 20MnCr5

EOS M 290 | 30/40/80 μm

Case hardening steel with good hardenability reaching good wear resistance due to high surface hardness after heat treatment.



Main Characteristics

- Good wear resistance
- Excellent surface hardness after carburizing
- Chemical composition corresponds to EN10084

Typical Applications

- Automotive and general engineering applications
- Gears, spare parts

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Product Information

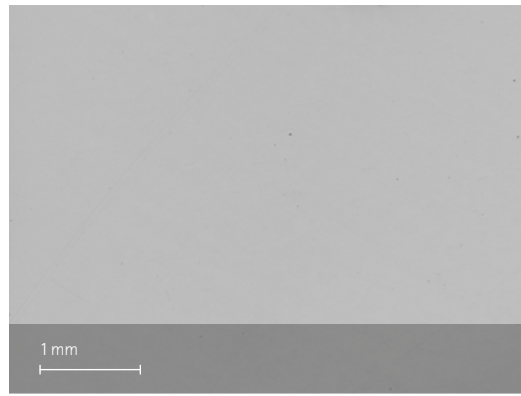
Current TRL	3
DMLS System	EOS M 290
Material	EOS CaseHardeningSteel 20MnCr5
Process*	20MnCr5_030_CoreM291_100

* EOS also offers 40 and 80 μm processes, the data was gathered for the 30 μm process

Layer thickness 30 μm

Volume rate 2.3 mm^3/s

Porosity < 0.5 %



Typical part properties

Typical part properties	Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation at break A [%]
Mechanical properties as manufactured	1,050	1,060	15
Mechanical properties heat treated	900	1,250	10
Surface hardness heat treated	> 60 HRC after carburization		

EOS CaseHardeningSteel 20MnCr5 can be heat treated according to EN 10084:28

Status 11/2019

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The quoted values refer to the use of this material with above specified type of EOS DMLS system, EOSYSTEM and EOSPRINT software version, parameter set and operation in compliance with parameter sheet and operating instructions. Part properties are measured with specified measurement methods using defined test geometries and procedures. Further details of the test procedures used by EOS are available on request. Any deviation from these standard settings may affect the measured properties. The data correspond to EOS knowledge and experience at the time of publication and they are subject to change without notice as part of EOS' continuous development and improvement processes. EOS does not warrant any properties or fitness for a specific purpose, unless explicitly agreed upon. This also applies regarding any rights of protection as well as laws and regulations.

