# EOS Materials Metal
## Portfolio Overview

DMLS®

| Product class | Product name | Material type* | Typical applications |
|---|---|---|---|
| Steels | EOS MaragingSteel MS1 | AMS6514, 18Ni300 | Series injection molding tools, mechanical engineering parts |
| | EOS ToolSteel 1.2709 | EN 1.2709 | Series injection molding tools, mechanical engineering parts |
| | EOS ToolSteel H13** | ASTM A681 | Hot working applications, forgings, die casting tools, hot extrusion tools |
| | EOS CaseHardeningSteel 20MnCr5 | 1.7147 | Automotive and general engineering applications, gears, spare parts |
| | EOS StainlessSteel GP1 | Stainless steel 17-4 / 1.4542 | Functional prototypes and series-production parts, mechanical engineering and medical technology |
| | EOS StainlessSteel PH1 | 1.4540, UNS S15500 | Functional prototypes and series production parts, mechanical engineering parts |
| | EOS StainlessSteel 254 | EN 1.4547 | Chlorinated seawater handling equipment, pulp and paper manufacturing devices, chemical handling equipment |
| | EOS StainlessSteel 316L | 1.4441, UNS S31673, ASTM F138 | Engineering parts for corrosive environments, can be used for medical parts, e.g. endoscopy and orthopedics |
| | EOS StainlessSteel 316L VPro | 1.4404, UNS S31603 | Press-and-sinter applications which require high productivity |
| | EOS StainlessSteel CX | Precipitation hardening tool steel | Series injection molding tools for corrosive plastic and rubber, mechanical engineering parts |
| | EOS StainlessSteel 17-4PH | 1.4542, UNS 17400, ASTM A564M | Acid and corrosion resistant engiineering parts, medical instruments (surgical tools, orthopedic instrumentation) |
| | EOS StainlessSteel SuperDuplex | Austenitic-ferritic duplex stainless steel | Oil and gas industry, pulp and paper manufacturing devices, mining and off-shore equipment |
| Nickel alloys | EOS NickelAlloy IN718 | UNS N07718, AMS 5662, AMS 5664, 2.4668, NiCr19Fe19NbMo3 | Load-bearing components for high temperature applications up to 700 °C, good potential for cryogenic applications |
| | EOS NickelAlloy IN625 | UNS N06625, AMS 5666, AMS 5599, 2.4856, NiCr22Mo9Nb | Components for service in corrosive environments, good potential for cryogenic applications |
| | EOS NickelAlloy IN939 | Inconel™ 939 | Engineering parts requiring excellent mechanical properties (fatigue, creep) and corrosion and oxidation resistance up to 850 °C |
| | EOS NickelAlloy HX | UNS N06002, AMS 5390 | High temperature applications requiring excellent oxidation resistance up to 1 200 °C |

* Material in accordance with respective standard
** Currently under development

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| Cobalt chrome | EOS CobaltChrome MP1 | UNS R31537, ISO 5832-4, ASTM F75, ISO 5832-12, ASTM F1537 | Medical implants with high wear and corrosion resistance, high temperature components in aerospace |
| Copper | EOS Copper Cu | High purity copper | Heat exchangers, electronics, variety of industry applications requiring good conductivity |
| | EOS Copper CuCP | Commercially pure copper | Electrical motors, inductors, variety of industry applications requiring excellent conductivity |
| | EOS CopperAlloy CuCrZr | C18150, CW106C | Rocket engine parts, heat exchangers, induction coils |
| Titanium | EOS Titanium Ti64<br>EOS Titanium Ti64 Grade 5 | Ti6Al4V, ISO5832-3, ASTM F1472, ASTM F2924, ASTM F3302 | Series production parts in aerospace, medical and automotive |
| | EOS Titanium Ti64ELI<br>EOS Titanium Ti64 Grade 23 | Ti6Al4V ELI, ASTM F136, ASTM F3001, ASTM F3302 | Series production parts in medical (spinal cages, tibal trays, patella, etc.) |
| | EOS Titanium TiCP | ASTM F67, ISO 5832-2 | Series production parts in medical (e.g. trauma plates, CMF implants, etc.) |
| Aluminum | EOS Aluminium AlSi10Mg | AlSi10Mg | General engineering components and parts subject to high loads in aerospace and automotive industries, substitution of cast AlSi10Mg parts |
| | EOS Aluminium AlF357 | AlSi7Mg0,6, SAE AMS 4289 | Structural components in aerospace and automotive industries requiring balanced mechanical properties |
| | EOS Aluminium Al2139 AM | Aluminium Association Teal Sheet for Al2139 modified for DMLS | Production parts in Aerospace & Space, Racing, Transportation & Mobility, lightweight designs |
| Refractive Metals | EOS Tungsten W1 | Pure tungsten | Thin walled parts for use in guidance structures in x-ray imaging such as anti-scatter grids |

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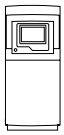
Detailed information: www.eos.info/material-m

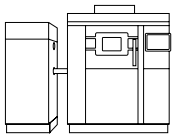
# Compatibility of
# Metal Materials and Systems

Product name
Layer thickness



## EOS M 100

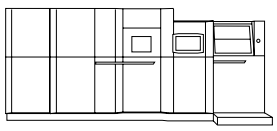
- EOS CobaltChrome MP1 — 30 µm
- EOS StainlessSteel 316L — 20 µm
- EOS Titanium Ti64 — 20 µm
- EOS Tungsten W1 — 20 µm



## EOS M 290

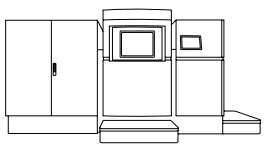
- EOS Aluminium AlF357 — 30 µm
- EOS Aluminium AlSi10Mg — 30 | 60 µm
- EOS Aluminium Al2139 AM — 60 µm
- EOS CaseHardeningSteel 20MnCrZr — 40 µm
- EOS CobaltChrome MP1 — 20 | 40 | 50 µm
- EOS Copper Cu — 20 µm
- EOS Copper CuCP — 40 µm*
- EOS CopperAlloy CuZrCr — 80 µm*
- EOS MaragingSteel MS1 — 20 | 40 | 50 µm
- EOS NickelAlloy HX — 20 | 40 µm
- EOS NickelAlloy IN625 — 20 | 40 µm
- EOS NickelAlloy IN718 — 20 | 40 µm
- EOS NickelAlloy IN939 — 40 µm
- EOS StainlessSteel 17-4PH — 20 | 40 µm
- EOS StainlessSteel 254 — 40 | 60 µm
- EOS StainlessSteel 316L — 20 | 40 | 80 µm
- EOS StainlessSteel 316L VPro — 60 µm
- EOS StainlessSteel CX — 30 µm
- EOS StainlessSteel PH1 — 20 µm
- EOS StainlessSteel SuperDuplex — 40 | 80 µm
- EOS Titanium Ti64 — 30 | 60 µm
- EOS Titanium Ti64ELI — 30 µm
- EOS Titanium Ti64 Grade 23 — 40 | 80 µm
- EOS Titanium Ti64 Grade 5 — 40 | 80 µm
- EOS Titanium TiCP Grade 2 — 30 µm
- EOS ToolSteel 1.2709 — 40 µm
- EOS ToolSteel 1.2709 — 40 µm

* for AMCM M 290 1kW



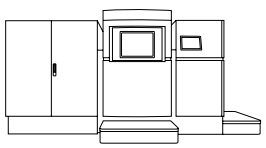
## EOS M 300-4

- EOS Aluminium AlSi10Mg — 60 µm
- EOS MaragingSteel MS1 — 50 µm
- EOS NickelAlloy IN718 — 40 µm
- EOS NickelAlloy IN625 — 40 µm
- EOS StainlessSteel 316L — 40 | 80 µm
- EOS Titanium Ti64 — 60 µm



## EOS M 400

- EOS Aluminium AlF357 — 60 µm
- EOS Aluminium AlSi10Mg — 90 µm
- EOS CopperAlloy CuCrZr — 80 µm
- EOS MaragingSteel MS1 — 50 µm
- EOS NickelAlloy IN718 — 40 µm
- EOS Titanium Ti64 — 30 µm
- EOS Titanium Ti64ELI — 30 µm



## EOS M 400-4

- EOS CaseHardeningSteel 20MnCrZr — 40 µm
- EOS Aluminium AlSi10Mg — 40 | 80 µm
- EOS MaragingSteel MS1 — 40 µm
- EOS NickelAlloy HX — 40 µm
- EOS NickelAlloy IN718 — 40 | 80 µm
- EOS NickelAlloy IN939 — 40 µm
- EOS StainlessSteel 316L — 40 | 80 µm
- EOS Titanium Ti64 — 60 µm
- EOS Titanium Ti64 Grade 23 — 80 µm
- EOS Titanium Ti64 Grade 5 — 80 µm
- EOS Titanium TiCP Grade 2 — 30 µm