COMPATIBILITY OF

METAL MATERIALS AND SYSTEMS

System	Product name Layer thickness
 EOS M 290*	* All EOS M 290 processes apply also for EOS M 290-2. All IN718 processes are applicable to IN718 API **ALUMINIUM** **EOS Aluminium Al5X1** 40 µm **EOS Aluminium AlF357** 30 µm **EOS Aluminium AlSi10Mg** 30 | 60 µm **EOS Aluminium Al2139 AM** 60 µm **EOS Aluminium Constellium CP1** 60 µm **COBALT CHROME** **EOS CobaltChrome MP1** 40 µm **COPPER** **EOS Copper Cu** 20 µm **NICKEL ALLOYS** **EOS Nickel NiCP** 80 µm **EOS NickelAlloy C22** 40/80 µm **EOS NickelAlloy HX** 40 µm **EOS NickelAlloy IN625** 40 | 80 µm **EOS NickelAlloy IN718** 40 µm | 40 µm | 80 µm **EOS NickelAlloy IN718 API** 40 µm **EOS NickelAlloy IN738** 40 µm **EOS NickelAlloy K500** 60 µm **OTHER STEELS** **EOS CaseHardeningSteel 20MnCr5** 40 | 40/80 | 80 µm **EOS Steel 42CrMo4** 40 | 40/80 | 80 µm **SPECIAL METAL MATERIALS** **EOS FeNi36** 40 | 80 µm **EOS Niobium C103** 40 µm **STAINLESS STEEL** **EOS StainlessSteel 17-4PH** 40 | 40/80 | 80 µm **EOS StainlessSteel 254** 40 | 60 µm **EOS StainlessSteel 2507** 40 | 40/80 | 80 µm **EOS StainlessSteel 316L-4404** 40 µm **EOS StainlessSteel 316L-4441** 20 | 40 | 40/80 | 80 µm **EOS StainlessSteel PH1** 40 | 40/80 | 80 µm **EOS StainlessSteel SuperDuplex** 40 | 40/80 | 80 µm **TITANIUM** **EOS Titanium Ti64** 30 | 60 µm **EOS Titanium Ti64 Grade 23** 40 | 80 µm **EOS Titanium Ti64 Grade 5** 40 | 80 µm **EOS Titanium Ti64ELI** 30 µm **EOS Titanium TiCP Grade 2** 30 µm **TOOL STEEL** **EOS MaragingSteel MS1** 40 | 50 µm **EOS StainlessSteel CX** 30 | 40 | 40/80 | 80 µm **EOS ToolSteel 1.2709** 40 µm **EOS ToolSteel CM55** 40/80 µm **EOS ToolSteel H13** 40 µm
 EOS M 290 1kW	**ALUMINIUM** **EOS Aluminium AlSi10Mg** 80 µm **COPPER** **EOS Copper CuCP** 40 µm **EOS CopperAlloy CuCrZr** 80 µm
 EOS M 400-4	**ALUMINIUM** **EOS Aluminium Al5X1** 40 µm **EOS Aluminium AlSi10Mg** 30 | 40 | 80 µm **EOS Aluminium Al2139 AM** 50 µm **EOS Aluminium Constellium CP1** 60 µm **NICKEL ALLOYS** **EOS Nickel NiCP** 80 µm **EOS NickelAlloy HX** 40 µm **EOS NickelAlloy IN625** 40 | 80 µm

EOS NickelAlloy IN718
40 | 80 µm

EOS NickelAlloy IN738
40 µm

EOS NickelAlloy K500
60 µm

OTHER STEELS

EOS CaseHardeningSteel 20MnCr5
40 | 40/80 | 80 µm

STAINLESS STEEL

EOS StainlessSteel 17-4PH
40 | 40/80 | 80 µm

EOS StainlessSteel 316L-4441
40 | 40/80 | 80 µm

EOS StainlessSteel PH1
40 | 40/80 | 80 µm

TITANIUM

EOS Titanium Ti64
60 µm

EOS Titanium Ti64 Grade 23
80 µm

EOS Titanium Ti64 Grade 5
80 µm

TOOL STEEL

EOS MaragingSteel MS1
40 | 80 µm

EOS StainlessSteel CX
40 | 40/80 | 80 µm

EOS M4 ONYX

NICKEL ALLOYS

EOS NickelAlloy IN718
40/80 µm

TITANIUM

EOS Titanium Ti64
60 µm

EOS M4 ONYX FLX

NICKEL ALLOYS

EOS NickelAlloy IN718
80 µm

TOOL STEEL

EOS MaragingSteel MS1
80 µm

EOS METAL MATERIALS

PORTFOLIO OVERVIEW

Product class	Product name	Chemical Composition Standard	Customer Applications
Aluminium	EOS Aluminium AlSX1	Designed for AM	Aerospace Automotive Marine Lightweight designs
	EOS Aluminium AlF357	AlSi7Mg0.6, SAE AMS 4289	Aerospace industry applications Defense and automotive industries Structural components requiring high strength
	EOS Aluminium AlSi10Mg	AlSi10Mg	General engineering components and parts subject to high loads Lightweight designs Aerospace and automotive components Substitution of cast AlSi10Mg parts
	EOS Aluminium Al2139 AM	modified from Aluminum Association Teal Sheet for Al2139	Aerospace Racing Transportation and Mobility Lightweight designs
	EOS Aluminium Constellium CP1	AA8A61.50	Heat exchangers Components requiring high-quality surface finishing, polishing, and anodization Parts exposed to corrosive environments Semiconductor industry applications Lightweight structural components with moderate mechanical load requirements
Cobalt Chrome	EOS CobaltChrome MP1	UNS R31537, ISO 5832-4, ASTM F75, ISO 5832-12, ASTM F1537	Various applications in aerospace and medical field
Copper	EOS Copper Cu	approx. 99.6% pure	Heat exchangers Electronics Variety of industry applications requiring good conductivity
	EOS Copper CuCP	>99.95% pure	Electrical motors Inductors Variety of industry applications requiring excellent conductivity properties
	EOS CopperAlloy CuNi30	ASTM B369-09 UNS 96400	Pumps and impellers Marine applications
	EOS CopperAlloy CuCrZr	C18150 & CW106C	Rocket engine parts Heat exchangers Induction coils
Nickel Alloys	EOS Nickel NiCP	ASTM B162 and SAE AMS5553	Semiconductor manufacturing parts Chemical industry parts
	EOS NickelAlloy 247		Gas turbine hot gas path components; nozzle guide vanes, blades, ring segments Integrally bladed disks (blisks) turbopump rotors

			Engineering components for sustained service at elevated temperatures
	EOS NickelAlloy C22	ASTM B 574, UNS N 06022	Chemical processing components Food processing
	EOS NickelAlloy HAYNES® 282®		Aerospace and rocket engine components Turbomachinery and gas turbine parts Energy industry components
	EOS NickelAlloy HX	UNS N06002, AMS 5390	Aerospace Gas turbine parts
	EOS NickelAlloy IN625	UNS N06625, AMS 5666, AMS 5599, 2.4856, NiCr22Mo9Nb	Racing applications Gas turbines in aerospace and energy Ship building industry
	EOS NickelAlloy IN718	UNS N07718, AMS 5662, AMS 5664, 2.4668, NiCr19Fe19NbMo3	Gas turbine components Instrumentation parts Power industry parts Process industry parts
	EOS NickelAlloy IN718 API	API 6ACRA	Piping, tubing, and manifolds for downhole applications Pumping, separation, and injection equipment Fixtures and fasteners
	EOS NickelAlloy IN738	Based on AMS 5410C	Gas turbine components Rocket engine turbo pumps Marine and automotive turbochargers
	EOS NickelAlloy IN939		Industrial gas turbines (vanes, blades, heat-shields) Microturbines Turbochargers Instrumentation parts Power industry parts Process industry parts
	EOS NickelAlloy K500	UNS N05500	Aerospace Marine Industrial applications
Other Steels	EOS CaseHardeningSteel 20MnCr5	1.7147	Automotive and general engineering applications Gears, mechanical parts
	EOS Steel 42CrMo4	EN 10083-3	Engineering components Shafts Gears
Special Metal Materials	EOS FeNi36	ASTM-F1684-06	Housings and structures for optical and scientific instruments Aerospace and satellite structures Other applications requiring low thermal expansion
	EOS Niobium C103	ASTM F3635 - 23	High-value, high-temperature applications, including: Space propulsion systems e.g. nozzles, chambers Aerospace thermal components e.g. heat shields
	EOS Tungsten W1	Pure Tungsten	Thin walled parts for use in guidance structures in x-ray imaging such as anti-scatter grids
Stainless Steel	EOS StainlessSteel 17-4PH	1.4542, UNS17400, A564M	Surgical tools Pump components Paper mill equipment
	EOS StainlessSteel 254	EN 1.4547	Chlorinated seawater handling equipment Pulp and paper manufacturing devices Chemical handling equipment
	EOS StainlessSteel 2507	ISO EN 10088-3, 1.4410	→ Oil and gas industry → Pulp and paper manufacturing devices → Mining and off-shore equipment
	EOS StainlessSteel 316L-4404	DIN EN 10088-3	Chemical industry Food processing Water handling and marine applications
	EOS StainlessSteel 316L-4441	1.4441, UNS S31673, F138	Chemical industry Food processing Medical devices
	EOS StainlessSteel PH1	1.4540, UNS S15500	Engineering applications including functional prototypes, small series products, individualised products or spare parts Parts requiring high corrosion resistance, sterilisability, etc. Parts requiring particularly high hardness and strength
	EOS StainlessSteel SuperDuplex		Oil and gas industry Pulp and paper manufacturing devices Mining and off-shore equipment
Titanium	EOS Titanium Ti64	Ti6Al4V, ISO5832-3, ASTM F1472, ASTM F2924, ASTM F3302	
	EOS Titanium Ti64 Grade 23	Ti6Al4V ELIASTM F136, ASTM F3001, ASTM F3302	Medical components Implants Other industrial applications where low weight in combination with high strength are required
	EOS Titanium Ti64 Grade 5	Ti6Al4V, ISO5832-3, ASTM F1472, ASTM F2924, ASTM F3302	Aerospace components Automotive components Other industrial applications where low weight in combination with high strength are required
	EOS Titanium Ti64ELI	Ti6Al4V ELI, ASTM F136, ASTM F3001, ASTM F3302	Parts for medical industry
	EOS Titanium TiCP Grade 2	ASTM F67, ISO 5832-2	Parts for medical and other industries

Tool Steel	EOS MaragingSteel MS1	18Ni300, M300	Injection molding tools & inserts Mechanical engineering parts
	EOS StainlessSteel CX		Plastic injection molding tools and tool parts for demanding applications Rubber molding tools and tool parts Molding tools and tool parts for corrosive plastics Other industrial applications where high strength and hardness are required
	EOS ToolSteel 1.2709	1.2709	Plastic injection molding Extrusion tools Hot pressing tools Die casting tools for aluminum and zinc alloys
	EOS ToolSteel CM55		Cold working tools Hot working tools Parts for mechanical engineering Powertrain components
	EOS ToolSteel H13	ASTM A681-08	Die cast tooling Forging Hot extrusion tools

Detailed information: https://www.eos.info/metal-solutions

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