

## COBALTCHROME MP1

### DIRECT METAL LASER SINTERING MATERIAL

**DESCRIPTION:**

PARTS BUILT FROM COBALTCHROME MP1 CONFORM TO THE CHEMICAL COMPOSITION UNS R31538 OF HIGH CARBON COCRMO ALLOY. THEY ARE NICKEL-FREE (< 0.1 % NICKEL CONTENT) AND ARE CHARACTERIZED BY A FINE, UNIFORM CRYSTAL GRAIN STRUCTURE. AS BUILT COBALTCHROME MP1 MEETS THE CHEMICAL AND MECHANICAL SPECIFICATIONS OF ISO 5832-4 AND ASTM F75 FOR CAST COCRMO IMPLANT ALLOYS, AS WELL AS THE SPECIFICATIONS OF ISO 5832-12 AND ASTM F1537 FOR WROUGHT COCRMO IMPLANTS ALLOYS EXCEPT REMAINING ELONGATION. THE REMAINING ELONGATION CAN BE INCREASED TO FULFIL EVEN THESE STANDARDS BY HIGH TEMPERATURE STRESS RELIEVING OR HOT ISOSTATIC PRESSING (HIP).

**APPLICATIONS:**

PARTS MADE FROM EOS COBALTCHROME MP1 CAN BE MACHINED, SPARK-ERODED, WELDED, MICRO SHOTPEENED, POLISHED AND COATED IF REQUIRED. THEY ARE SUITABLE FOR BIOMEDICAL APPLICATIONS (NOTE: SUBJECT TO FULFILMENT OF STATUTORY VALIDATION REQUIREMENTS WHERE APPROPRIATE), AND FOR PARTS REQUIRING HIGH MECHANICAL PROPERTIES IN ELEVATED TEMPERATURES (500 - 1000 °C) AND WITH GOOD CORROSION RESISTANCE.



### COBALTCHROME MP1

PROPERTY	ASTM	METRIC UNITS	
		AS BUILT	STRESS RELIEVED
ULTIMATE TENSILE STRENGTH	E466	1350 MPA	1100 MPA
0.2% YIELD STRENGTH	E466	1060 MPA	600 MPA
ELONGATION	E466	11 %	MIN 20%
FATIGUE LIFE	E466	APPROX. 560 MPA	APPROX. 560 MPA
MODULUS OF ELASTICITY	E466	200 GPa	200 GPa
HARDNESS, ROCKWELL B	E466	35-45	35-45

### SERVICES AVAILABLE

- PRODUCT DESIGN
- RAPID PROTOTYPING
- SLA
- FRSLA
- POLYJET
- SLS
- DMLS**
- FDM
- PLASTIC CASTING
- CNC MACHINING
- INJECTION MOLD TOOLING
- RAPID TOOLING
- PRODUCTION TOOLING
- INJECTION MOLDING
- METAL CASTING

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