

forAM® 4130 20-53 GA

Structural steel powder for Additive Manufacturing

forAM 4130 GA is medium carbon low alloyed structural steel powder for additive manufacturing. Additional quench and tempering heat treatment allows for wide range of strength/ductility combinations.

The material is widely used for medium and highly loaded components in automotive and general industry.

Equivalent materials:

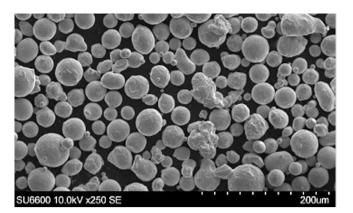
- ≫ 25CrMo4
- ≫ 1.7218
- ≫ SAE 4130
- >> AISI 4130
- >> SCM 430

For more information on forAM product line and other of Höganäs products, please contact your local sales representative.



Powder properties

Chemical composition, (typical values)				
Element	Content, %			
Cr	1.0			
Mn	0.5			
Мо	0.25			
Si	0.35			
С	0.30			
0	0.06			
Fe	Balance			

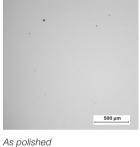


Typical powder properties				
Nominal particle range	20-53 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497		
Hall flow	16 s/50 g	MPIF03, ASTM B213, ISO4490		
Apparent density	4.0 g/cm ³	MPIF04, ASTM B212, ISO3923/1		

Mechanical properties

Surface condition is machined					
Heat treatment	SR ⁽¹⁾	QT200 ⁽²⁾	QT550 ⁽³⁾		
Printed in Z-direction – Build direction					
UTS (MPa)	1,305	1,540	1,070		
YS (MPa)	1,120	1,150	1,020		
Elongation (%)	6	8	12		
IE Notch in Y direction (J)		10	50		

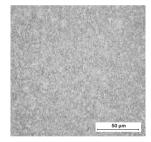
Heat treatment	SR ⁽¹⁾	QT200 ⁽²⁾	QT550 ⁽³⁾			
Printed in X/Y-direction – Perpendicular						
UTS (MPa)		1,765	1,145			
YS (MPa)		1,385	1,085			
Elongation (%)		10	13			
IE Notch in Z direction (J)		15	80			
Hardness (HV10)		500	330			



QT200 – Build direction



Stress relived – Build direction



QT550 – Build direction

(1) Stress relieved at 200 °C in air for 1 h.

(2) Quenched and Tempered - Austenitized at 830 $^\circ\rm C$ in vacuum followed by oil quench, Tempered at 200 $^\circ\rm C$ in air.

(3) Quenched and Tempered - Austenitized at 830 $^{\circ}{\rm C}$ in vacuum followed by oil quench, Tempered at 550 $^{\circ}{\rm C}$ in Ar.

Standard packaging:

20 kg (4x5 kg, 1 L PE bottles packed in cardboard box) (Other tailored particle sizes, and packaging eg. 200 kg / 500 kg Flexbag, are available under conditions)

Höganäs 🖽 www.hoganas.com At Höganäs, we have designed our high-quality 3D printing metal powders for the special requirements of additive manufacturing. Manufacturers all over the globe achieve optimal results with our products and value them for the following characteristics: excellent flowability, good spherical shape, controlled oxygen and nitrogen content, full and high packing density and perfect reproducibility.