



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.

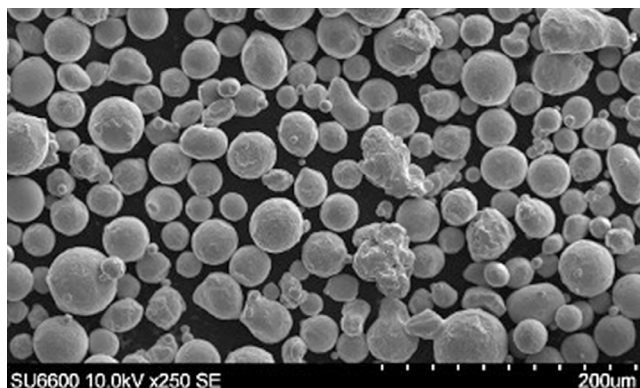
Equivalent materials:

- » 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
Mo	0.25
Si	0.35
C	0.30
O	0.06
Fe	Balance

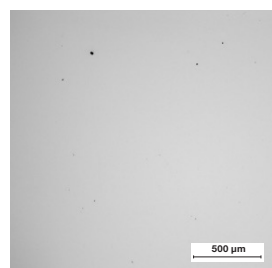


Typical powder properties		
Nominal particle range	20-53 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	16 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.0 g/cm ³	MPIF04, ASTM B212, ISO3923/1

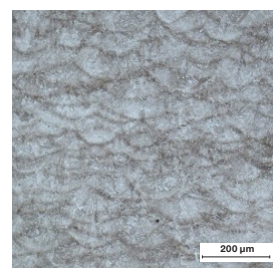
Mechanical properties

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

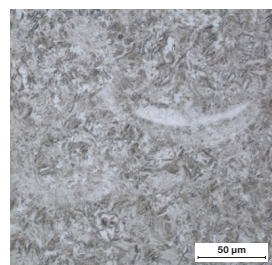
Heat treatment	SR ⁽¹⁾	QT200 ⁽²⁾	QT550 ⁽³⁾
Printed in X/Y-direction – Perpendicular			
UTS (MPa)		1,765	1,145
YS (MPa)		1,385	1,085
Elongation (%)		10	13
IE Notch in Z direction (J)		15	80
Hardness (HV10)		500	330



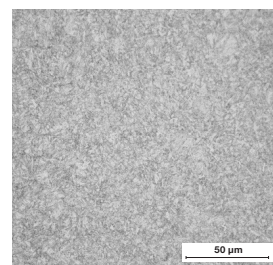
As polished



Stress relieved – Build direction



QT200 – Build direction



QT550 – Build direction

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

(2) Quenched and Tempered - Austenitized at 830 °C in vacuum followed by oil quench, Tempered at 200 °C in air.

(3) Quenched and Tempered - Austenitized at 830 °C in vacuum followed by oil quench, Tempered at 550 °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)