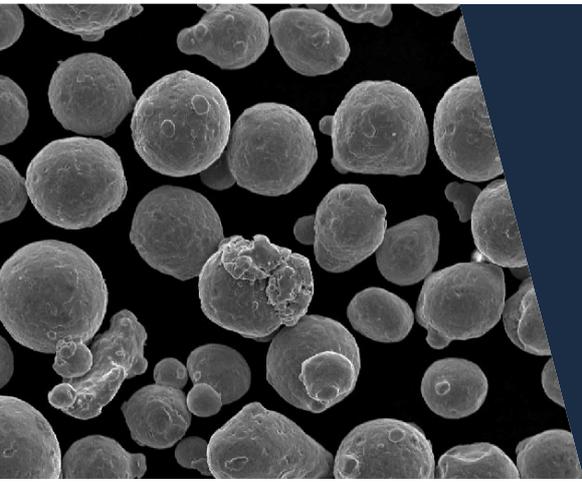


# LOW ALLOY STEELS



## Low Alloy Steels

Are Iron-based alloys with small amounts of Cr, Mn, Mo, Ni, Si and C, available in water- and gas-atomized powders. These materials are advantageous for structural and automotive applications requiring a range of hardenability and mechanical properties. Powders are engineered to compare to the SAE-AISI designations, often requiring adjustments to utilize additive manufacturing techniques and processes.

### CONTACT INFORMATION

Additive Materials Expert

[additivematerials@gknpm.com](mailto:additivematerials@gknpm.com)

- Metal Powder for Additive Manufacturing
- Particle Size Engineered for Binder Jetting, Laser Powder Bed Fusion (LPBF), and Electron Beam Melting (EBM)
- Rigorous Quality Testing of each powder lot
- Powder Size Available for Metal Injection Molding and DED, "Direct energy deposition"
- Available Water- or Gas-Atomized

## Typical Powder Characteristics

Laser Particle Size Analysis [ $\mu\text{m}$ ]				
Size Type	D10	D50	D90	Application
<25	6	15	23	MIM, Binder Jetting
15-53	20	35	50	LPBF
45-105	50	75	103	EBM, Laser Cladding

## Chemical Composition Nominal (wt%)

Name	Iron	Nickel	Chromium	Silicon	Manganese	Molybdenum	Carbon
4340	Bal.	1.9	0.9	0.3	0.8	0.2	0.41
4630	Bal.	1.9	0.1	0.2	0.2	0.4	0.28
8620	Bal.	0.6	0.5	0.2	0.9	0.2	0.21
20MnCr5	Bal.	--	1.3	0.6	1.3	--	0.20
42CrMo4	Bal.	--	0.9	0.05	0.7	0.2	0.42
5120	Bal.	--	0.9	0.3	0.7	--	0.17

© GKN Powder Metallurgy 2019

This Material Specification is confidential and is supplied on condition that it must only be used for the purpose for which it has been supplied and must not be copied, exhibited nor communicated to third parties without the consent of GKN Powder Metallurgy whose property it remains.