



**LUXFER**  
MAGTECH

DATA SHEET:

# Elektron® MAP+43



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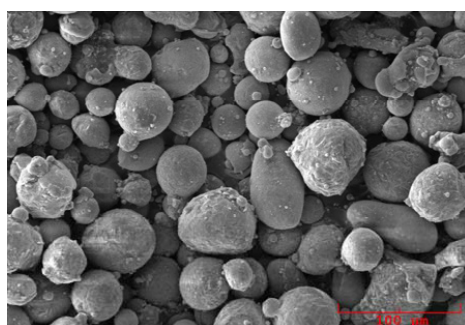
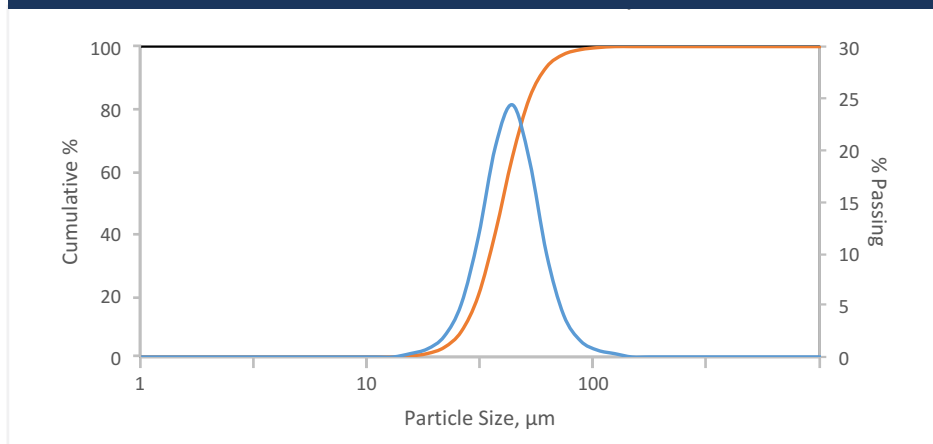
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## Magnesium Alloy Powder for Additive Manufacturing

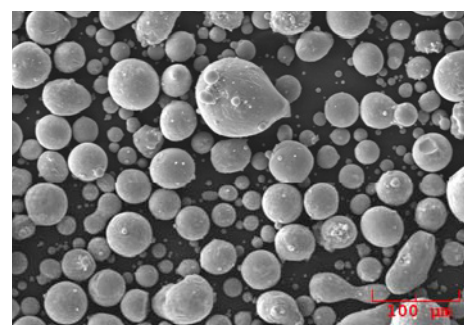
Elektron® MAP+43 is a high performance gas atomized magnesium alloy powder, specifically designed and optimized for additive manufacturing (3D-Printing) applications.

It is based on a rare earth containing wrought magnesium alloy, Elektron® 43 (ASTM: WE43C), a lightweight high performance alloy designed for aerospace and structural applications, with superior mechanical properties and free-machining characteristics. Elektron® MAP+43 Powders are available in a range of particle size distributions: (a) 20 to 63  $\mu\text{m}$ , (b) 44 to 160  $\mu\text{m}$ , or (c) customized.

### Elektron® MAP+43 · 20-63 $\mu\text{m}$



20 to 63  $\mu\text{m}$



44 to 160  $\mu\text{m}$

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## Elektron<sup>®</sup> 43 Chemistry (WE43C)

Element		Specification	Typical
		wt. %	wt. %
Yttrium	Y	3.7 to 4.3%	4%
Rare Earths	RE	2.3 to 3.5%	3%
Zirconium	Zr	0.2% min.	0.50%
Magnesium	Mg	Balance	Balance

## Elektron<sup>®</sup> MAP+43 Powder Characteristics

Particle Size Distribution	Apparent Density	Tap Density	Flow Rate	Laser Diffraction Size		
				D <sub>10</sub>	D <sub>50</sub>	D <sub>90</sub>
	g/cm <sup>3</sup>	g/cm <sup>3</sup>	s/50g	µm	µm	µm
20-63 µm	0.95	1.1	160	27	39	58
44-160 µm	0.99	1.1	67	50	83	133

## For a Range of Additive Manufacturing Technologies

- Selective Laser Sintering
- Direct Metal Laser Sintering
- Electron Beam Melting
- Laser Engineered Net Shapes
- Direct Metal Deposition
- Cold Spray Deposition
- Friction Stir Additive Manufacturing
- Other Additive Manufacturing Technologies

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