H.C. CARBON GmbH

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PRODUCT-INFORMATION

1. Product Name

MECHANO-CAP® 1P1

2. Product Description

MECHANO-CAP® 1P1 is a very pure, spherical natural graphite with a high bulk and tap density. The production is made according to the method of mechano-design. This enables an easy access to the basal planes resulting in fast intercalation and deintercalation. MECHANO-CAP® 1P1 shows a very high tap density and a low specific surface. In lithium ion batteries undesired surface reactions caused by electrolytes are reduced in this way. In many cases a surface coating is not necessary and thus a considerable cost saving can be achieved.

3. Application

- Anode graphite for lithium ion batteries
- Improvement of thermal and electrical conductivity in polymer systems
- Synergistic effects with other graphite or synthetic materials like MCMB's
- Production of extremely high packing densities and solid matter concentrations
- Very easy incorporation in elastomers when using kneaders
- Lubricants with extremely high compression resistance

4. Specification

Property	Specification	Unit	Method
Carbon	>99.0	weight-%	DIN 53903 110°C
Moisture	max. 0.5	weight-%	drying
Particle size D_{50}	20-24	µm	laser diffraction
Particle size D_{10}	11-15	µm	laser diffraction
Particle size D_{90}	32-36	µm	laser diffraction
Spec. surface area	5-6	m²/g	BET
Tap density	900-1000	g/l	home method
Functionalisation	-	-	n.a.

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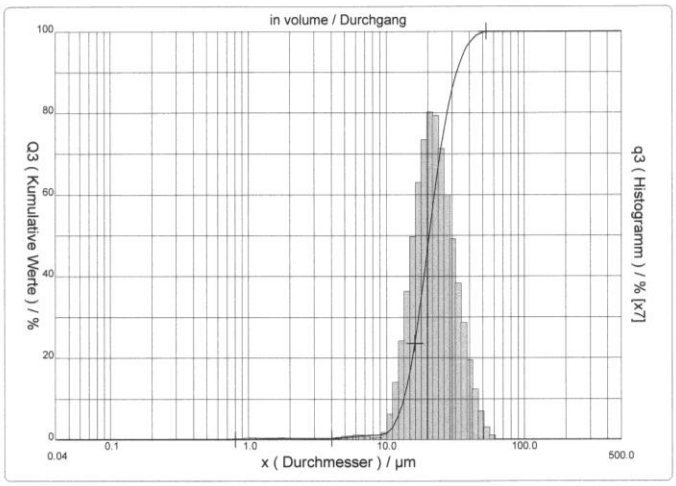
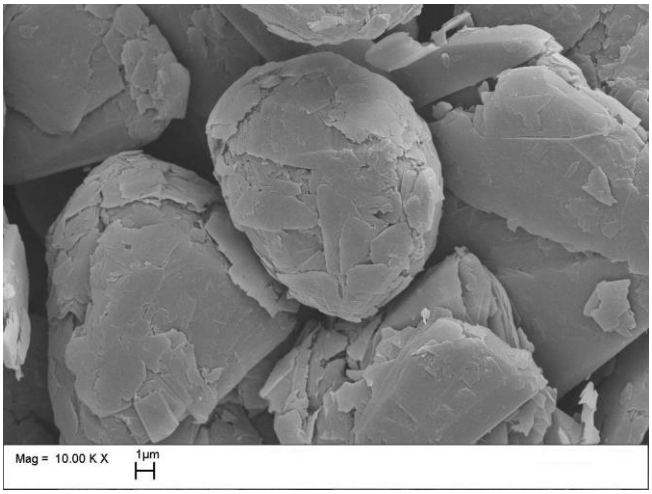
5. Typical particle size distribution



6. Typical particle shape



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7. Purity

Element	Quantity
Fe	≤50 ppm
Cu	≤1.5 ppm
Ca	≤60 ppm
Al	≤25 ppm
Mg	≤25 ppm
Pb	≤5.0 ppm
Na	≤55 ppm
Mo	≤3.0 ppm