

SICAT - ACM

β -SiC and Synthetic Carbon Catalyst Carriers

Enabling new chemistries with cutting-edge/resilient catalyst carriers that defy the limitations of traditional supports



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Innovative Catalyst Carriers for Demanding Applications

PROBLEMS & SOLUTIONS

⚠️ **Aggressive chemical environment**

💡 — **RESISTANT CARRIERS**

⚠️ **High exothermicity/endoothermicity**

💡 — **OUTSTANDING THERMAL CONDUCTIVITY**

⚠️ **Bulky molecules**

💡 — **MESOPOROUS CARRIERS**

💡 — **VARIABLE SHAPES**

⚠️ **Carrier-inherent impurities**

💡 — **HIGH-PURITY CARRIERS**

⚠️ **Microwave-heated reactions**

💡 — **HIGHLY SENSITIVE CARRIERS**



Saint-Gobain NorPro® acquired a majority stake in SICAT SAS and ACM GmbH, enabling ACM to invest in a new production line and increase its throughput to 150 tons per year of catalyst carriers.



sicatcatalyst.com

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Products

β-Silicon Carbide

The distinctive qualities of our β-Silicon Carbide products derive from SICAT's SiC process that produces a robust selfbonded Silicon Carbide with medium surface area allowing for an efficient dispersion of various catalytic active phases.

mesoC+™

SICAT engineered mesoC+ carbon pellets with a significant enhancement in mechanical strength compared to existing shaped activated carbons. Alongside its pore structure, high purity, and precisely crafted shapes, its mechanical resistance renders it exceptionally well-suited for catalytic supports.

Common main features of β-Silicon Carbide and mesoC+

- **Standard Shapes** – pellets, multilobes and rings available in various sizes



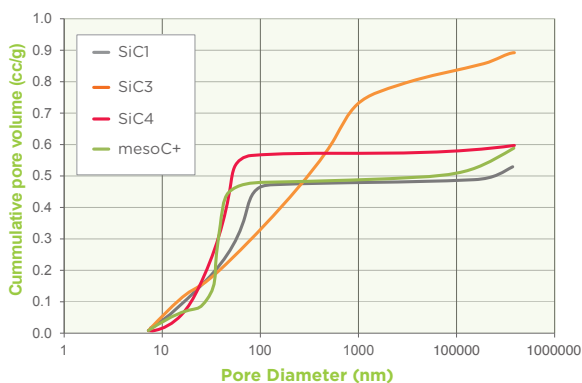
- **Superior chemical resistance** to acids, bases, oxidation, hydrothermal attacks due to the absence of binder.
- **Outstanding thermal conductivity** (compared to oxides with similar pore structures) for an optimal management of the reaction temperature within the reactor.
- **Outstanding mechanical strength** minimizing active phase loss, reactor plugging, and product contamination.
- **High purity**, preventing the poisoning of the active phase and non wanted catalytic effect.
- **Well controlled and tunable shape**, enabling a homogeneous bed packing and optimized pressure drop.
- **Large volume of meso- and macropores**, favoring mass transfer and maximizing the catalytic surface available for the reaction.

Product	BET Surface Area	Microporous Surface Area	Pore Volume*	Crushing Strength**
SiC1	25 m ² /g	<5 m ² /g	0.40 cc/g	75 N/mm
SiC3	25 m ² /g	<5 m ² /g	0.55 cc/g	25 N/mm
SiC4	30 m ² /g	<5 m ² /g	0.55 cc/g	50 N/mm
mesoC+	320 m ² /g	210 m ² /g	0.40 cc/g	40 N/mm

* Measured by water absorption

** Grain method per ASTM D4179 & D6175 for 3mm pellets

Porosity Ranges



Other products can be developed upon request

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For more details, downloads
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