mesoC+™

a synthetic carbon support

SICAT
BETA SiC CATALYST SUPPORTS

SICAT designed mesoC+™ carbon pellets with remarkable improvement of mechanical strength over current activated carbons.

Combined with its pore structure, high purity and well controlled shapes, its mechanical strength makes it ideally suited as catalyst support.

mesoC+™ is also a lower cost alternative to SICAT beta-SiC commercial materials for uses in non-oxidative conditions. mesoC+™ being part of the already widespread carbon family, users will find it easy to adopt.

KEY FEATURES AND BENEFITS

- ***High attrition resistance,*** minimizing active phase loss, reactor plugging, product contamination …

- ***High purity,*** preventing the poisoning of the active phase

- ***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

Typical values for 3 mm pellets	mesoC+™ pellets	Competitor carbon pellets*
Crushing strength (ASTM D4179)	40 N/mm	< 10 N/mm
Attrition (ASTM D4058)	0.4 %	> 1.5 %
Tapped bed density	580 g/l	350-450 g/l
BET (N_2 sorption)	275 m^2/g	800-1000 m^2/g
Pore volume 6-100 nm (Hg intrusion)	0.48 cc/g	< 0.20 cc/g
Total pore volume (Hg intrusion)	0.52 cc/g	0.40-0.70 cc/g

* range of values measured on three commercial pellets of activated carbon derived from coconut shell