



APPLIED CATALYSTS

ADVANCED TECHNOLOGY · SUPERIOR PERFORMANCE

TECHNICAL DATA SHEET

Ceramic Heat Transfer Media: Ceramic Saddles



Chemical composition:

SiO ₂ : >73%	Al ₂ O ₃ : 17-25%	Fe ₂ O ₃ : <1.0%	
CaO: <0.5%	MgO: <0.5%	K ₂ O + Na ₂ O: 2-4%	Other: <0.1%

Physical properties:

Specific gravity: 2.25-2.35 g/cm ³	Water absorption: <0.3%	Acid resistance: >99.6%
Max. Operating temp. 1100 C°	Porosity: <1%	Moh's hardness: >6.5
Thermal conductivity: 0.90-1.0 W/mK	Heat capacity: 850-900 kJ/kg°C	Softening point: 1400C°

Geometric properties:

Nominal Size, inches, neck diameter	3/8	1/2	5/8	3/4	1	1 1/2	2	3
Pieces per m ³ /1000	1560	610	269	146	59.0	19.7	8.24	2.40
Packing density, kg/m ³	900	780	700	670	650	580	550	530
Free volume, %	63	68	71	75	77	80	79	75
Surface Area, m ² /m ³	825	647	535	350	254	180	120	91

Thermal shock test:

(1) Randomly pick 100-200 pieces of saddles from the batch or shipment. (2) For each sample selected, heat it up to 820C and maintain them at this temperature for 30 minutes. (3) Drop the hot pieces into cold 20 C water. Repeat steps two (2) and three (3) ten (10) times on each and every piece in the sample lot. Examine the pieces and count the percentage that shows clear signs of breakage and/or cracking. Our standard is less than seven (7%) percent.

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