

Product: Honeycomb Ceramic Catalyst Substrate



Honeycomb ceramic catalyst substrate is used for gasoline vehicle catalyst converter of the exhaust gas purification treatment after coating catalyst. It can catalyze and purify the exhaust. The main material of the honeycomb ceramic catalyst substrate is cordierite. It can catalyze and purify the exhaust gas of the vehicle. We could provide 300cpsi, 400cpsi, 600cpsi honeycomb ceramic catalyst substrate. The height is within 200mm. The shape of the cross section could be round shape, ellipse shape, runway shape, pear shape or other shapes as

per requirement of customers.

The features of the cordierite honeycomb ceramic catalyst carrier as below,

1. Thin hole wall
2. Large surface area
3. Low back pressure
4. Small coefficient of thermal expansion
5. Good thermal impact resistance and good thermal shock resistance
6. Good matching with various catalyst active composition
7. Good performance of cold start
8. Low starting ignition temperature
9. High speed of temperature raise
10. Low air resistance
11. High conversion efficiency

Specification and Size

CPSI	Hole wall	Hole size	Hole area	Hole ratio	Surface area	Bulk density
300	0.25mm	1.22mm	1.48mm ²	67%	2200m ² /m ³	500kgs/m ³
300	0.22mm	1.25mm	1.55mm ²	70%	2260m ² /m ³	500kgs/m ³
300	0.19mm	1.28mm	1.63mm ²	74%	2310m ² /m ³	500kgs/m ³
400	0.23mm	1.04mm	1.08mm ²	67%	2579m ² /m ³	480kgs/m ³
400	0.20mm	1.07mm	1.75mm ²	71%	2654m ² /m ³	480kgs/m ³
400	0.17mm	1.10mm	1.21mm ²	75%	2728m ² /m ³	480kgs/m ³
600	0.23mm	0.81mm	0.65mm ²	61%	3002m ² /m ³	580kgs/m ³
600	0.20mm	0.84mm	0.70mm ²	65%	3114m ² /m ³	580kgs/m ³
600	0.17mm	0.87mm	0.75mm ²	70%	3225m ² /m ³	580kgs/m ³

Chemical composition

Item	stoneware	Cordierite	Mullite-cordierite	Mullite
SiO ₂ %	69-71	46-48	45-50	27-28
Al ₂ O ₃ %	18-30	34-37	45-50	70-71
MgO %	0.15-0.20	12.0-14.0	6.0-9.0	--
K ₂ O+Na ₂ O+CaO %	3.3-3.3	2.5-2.9	0.7-0.9	0.8-1.2
Fe ₂ O ₃ %	0.7-0.9	0.7-0.9	0.5-0.7	0.5-0.7
TiO ₂ +BaO %	0.2-0.25	0.3-0.4	--	--

Physical and chemical property

Item		200 cpsi	400cpsi
Compressive strength MPa	A Axis	15.0	15.0
	B Axis	1.5	1.5
	C Axis	0.2	0.2
Water absorption %	Min.	18.6	17.8
	Max.	23.4	20.7
	Average	22.1	19.6
Pore volume	Cm ³ /g	0.18-0.24	0.18-0.24
Thermal expansivity	20-1000°C 10 ⁻⁶ /K	1.5	1.8
Thermal conductivity	25-600°C W/m.K	1.5-1.6	
Specific heat J/g.K	100°C	0.80	1.5-1.6
	200°C	0.95	0.95
	300°C	2.0	2.0
Soften temp.	°C	1380	1380
Continuous high-temp. Durability % (After 100 hours)	1200°C	0.5	0.1
	1450°C	2.0	2.5
Heat consumption rate °C/min	20-1000°C	5.0	5.0