

Керамические субстраты Celcor, FLORA

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Архангельск (8182)63-90-72	Кемерово (3842)65-04-62	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
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CORNING

Celcor® Substrates

Meet tomorrow's emissions standards today with our extensive portfolio of ceramic solutions. Optimized for high performance, efficiency, and flexibility, Corning's advanced ceramic substrates are designed to meet your most demanding gasoline and diesel system needs.

Discover Advanced Solutions with Corning® Celcor® Substrates

- Best-in-class technical expertise from the company that pioneered cellular ceramic solutions and set the standard for catalytic converters worldwide
- Extensive product range to address tightening global standards
- Configurations and attributes that enable a wide range of after-treatment engineering solutions

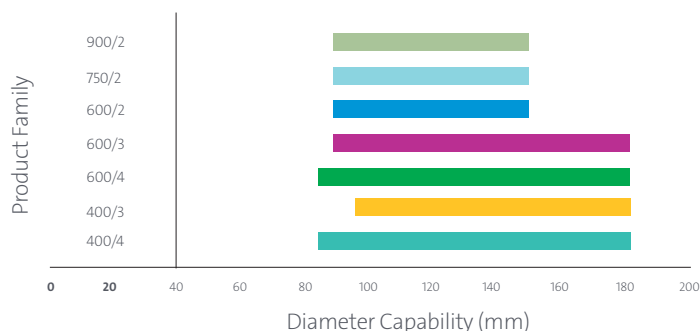
Product Highlights

- Innovative monolithic design with enhanced durability
- Promotes rapid light off: Low material density, low heat capacity, and high heat retention ability
- Highly resistant to thermal shock
- Flexible for designs requiring more surface area for same volume or lower pressure drop for same surface area

Product Attributes

Product cpsi/web	Bulk Density [g/L]	Open Frontal Area	Geometric Surface Area [cm ² /cm ³]	Heat Capacity 200°C [J K ⁻¹ L ⁻¹]	Hydraulic Diameter [mm]
400/3	220	0.865	29.3	131	1.18
400/4	279	0.828	28.7	166	1.16
600/4	324	0.800	34.5	193	0.93
600/3	267	0.836	35.3	159	0.95
600/2	223	0.881	36.2	132	0.97
750/2	248	0.868	40.2	148	0.86
900/2	271	0.856	43.7	161	0.78

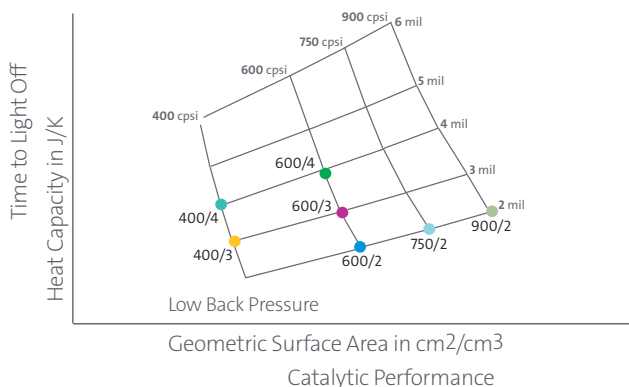
Size Ranges (Contour / Diameter)



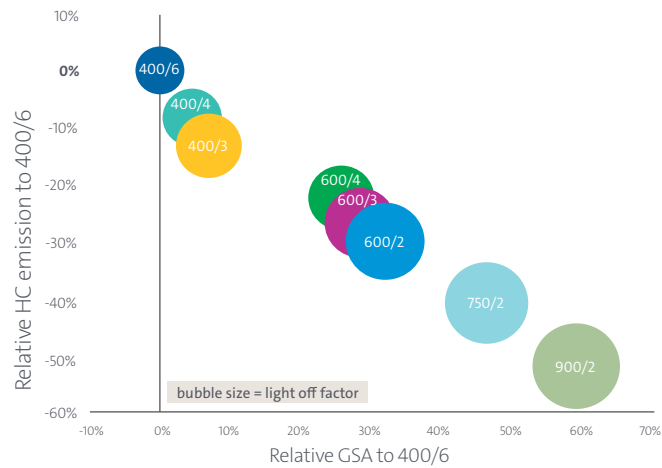
Global Supply



Heat Capacity / Geometric Surface Area

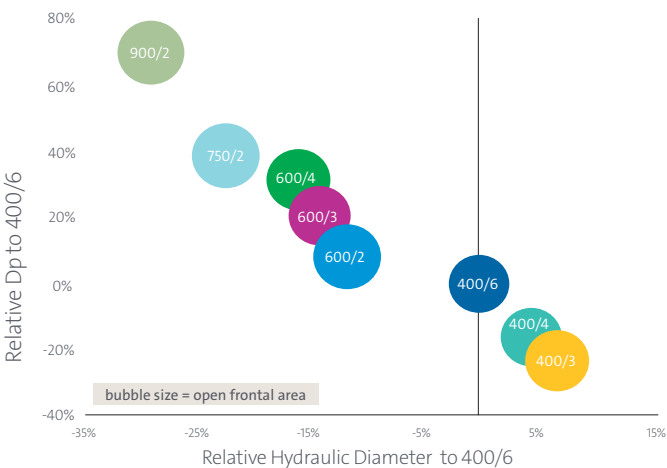


Modeled FTP HC Emissions / Geometric Surface Area



*Parts tested at size 105.7 x 76 mm

Back Pressure / Hydraulic Diameter



*Parts tested at size 105.7 x 76 mm; bp @ 200kg/h & 800C

Notes

- FTP-75 Bag-1 emissions show a linear relationship with light off factor.
- Thinner webs enable better reduction of hydrocarbon emissions.
- Increased concentration of cell structure offers higher geometric surface area which drives emissions performance.
- 900/2 has the highest geometric surface area, which enables the best steady-state performance.
- 750/2 provides the ideal trade-off between emissions performance and pressure drop; limitations exhibited by 900/2 and 600/2
- Within cell family, reducing web thickness reduces the heat capacity, enabling faster light off and lower back pressure.

Discover Advanced Solutions with Corning® Celcor® Substrates

Contact us today to learn how Corning’s extensive portfolio of advanced ceramic solutions can help you meet your most demanding system needs.



CORNING

Corning® Celcor® LFA Substrates

Setting the standard for clean heavy-duty diesel vehicles

Corning's product line of large frontal area (LFA) substrates delivers reliable performance under the demanding conditions of day-to-day diesel operations. With a selection of back pressure and geometric surface area combinations, our advanced substrates enhance system performance. We offer best-in-class technical expertise for heavy-duty on-road and non-road diesel applications, such as trucks, buses, construction, and agricultural equipment.

Corning® Celcor® LFA Substrates

Celcor LFA substrates offer several advantages for our customers to meet tightening global emissions standards:

- Thin wall technology to reduce system backpressure
- Precise porosity control to ensure proper wash coat application and adhesion
- Mechanical strength to withstand system assembly loads as well as in-use vibrations and shock
- Thermal management properties that ensure durability even in temperature extremes

Product Highlights

Corning® Celcor® LFA 300/5 substrates

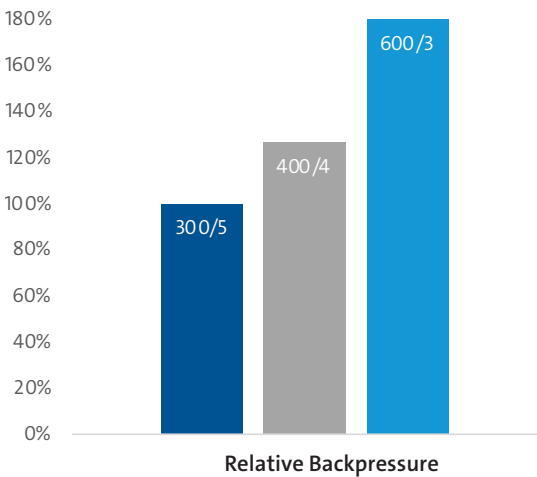
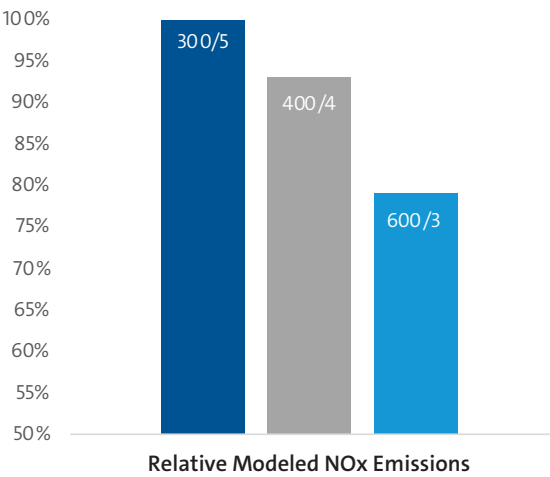
- Best-in-class pressure drop performance
- Form flexibility, round vs. oval

Corning® Celcor® LFA 400/4 substrates

- Balances pressure drop performance with emissions conversion efficiency

Corning® Celcor® LFA 600/3 substrates

- Higher surface area for most efficient (NOx) emissions conversion efficiency
- Opportunity for downsizing to achieve savings or fit tight packaging constraints



Thin-wall Products [cpsi/web]	Bulk Density [g/L]	Open Frontal Area [%]	Geometric Surface Area [cm²/cm³]	Hydraulic Diameter [mm]	Isostatic Strength [bar]
300/5	294	81.9	24.7	1.33	>10
400/4	279	82.8	28.7	1.16	>10
600/3	267	83.6	35.3	0.95	>10

The charts and graphs used in this publication are based on data from experimental and limited tests conducted under controlled laboratory conditions and modelling sponsored by Corning. Corning can provide additional calculations or test results based on specific operating conditions.

Corning® FLORA® Substrates

Benefits

Corning builds on more than 45 years of ceramic material and process knowledge with its fast light-off substrates. Through a unique material design that significantly reduces mass, FLORA® substrates can reach operating temperature more quickly than our standard Celcor® substrates to lower cold-start emissions. Discover best-in-class technical expertise from the company that invented cellular ceramic substrates and sets the standard for catalytic converters worldwide.

- Fastest light-off time for lowest HC emissions
- On-wall coating to maximize catalytic performance
- Can lower system cost by reducing precious metal use

Applications

Close-coupled for light-duty gasoline

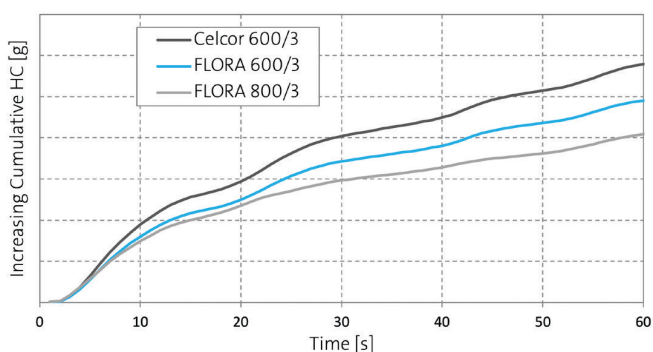
Product Attributes

Product [cpsi/web]	Time to Light-off ¹ [s]	Back Pressure ² [kPa]	GSA [cm ² /cm ³]
Celcor 600/2	51.5	1.8	36.2
FLORA 600/3	42.4	2.0	35.3
Celcor 750/2	55.3	2.4	40.2
FLORA 800/3	42.1	2.7	40.8
Celcor 900/2	59.2	2.9	43.7
FLORA 900/2	40.8	2.9	43.7

¹ Calculated on bare 188.41 x 73 mm part at 200 kg/hr ~ 800°C

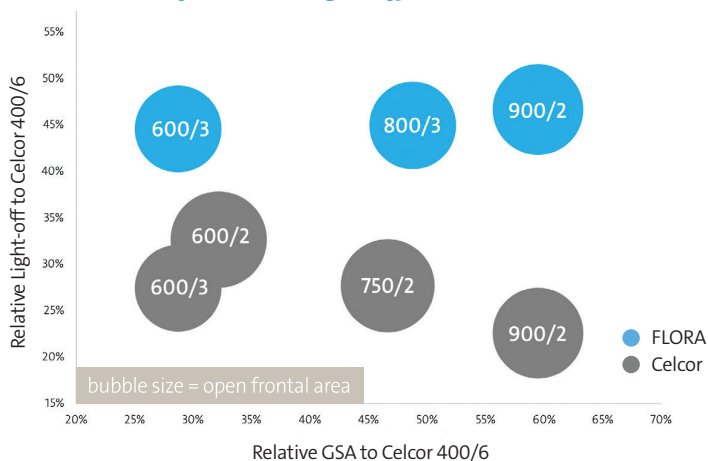
² Calculated on bare 188.41 x 73 mm part

Cumulative HC Emissions



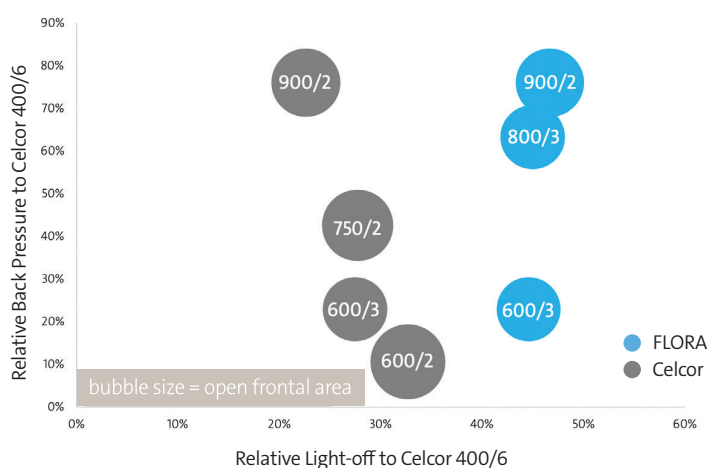
Engine bench testing on close-coupled, production-coated substrates. FLORA substrates significantly reduce HC emissions.

Geometric Surface Area/Light-off



FLORA offers a clear upgrade path to reduce time to light-off and reduce emissions starting from any ultra-thin wall product.

Back Pressure/Light-off



At any target back pressure level, FLORA has lower time to light-off than standard products.

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