

Corning Celcor® thin-wall substrates

For advanced catalytic converters

As engineers strive to meet tightening emission regulations, they are increasingly turning to catalytic converter substrates with thinner walls and greater geometric surface area to help improve conversion efficiency.

Corning Celcor thin-wall substrates, with walls as thin as 4 mils, offer a variety of benefits to help meet emission system requirements, providing greater flexibility for the design of both underbody and close-coupled converters.



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Corning Celcor® thin-wall substrates

Enhanced Emissions Performance

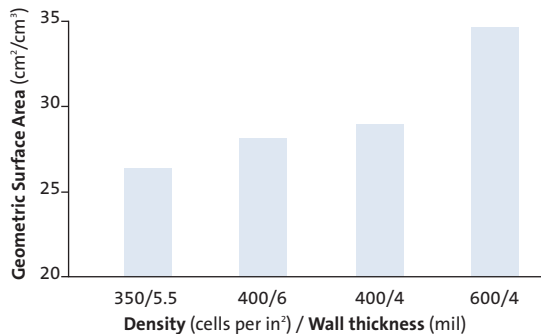
When selecting a catalytic converter substrate, a high ratio of geometric surface area to volume helps maximize conversion efficiency within space constraints. With approximately 25 percent higher geometric surface area than standard-wall substrates, Corning Celcor thin-wall substrates can help achieve a significant reduction in vehicle emissions.

Corning Celcor thin-wall substrates also promote rapid light-off with their low material density, low heat capacity, and high heat retention ability. Reducing catalytic converter light-off time contributes to reducing overall emissions.

Expanded Design Options

Compared to standard-wall substrates, the 4-mil walls of Corning Celcor thin-wall substrates offer additional flexibility to create converters with either more total surface area in the same volume, or converters having the same surface area with reduced pressure drop.

Geometric Surface Area (square cells)



Cell Structure	Open Frontal Area	Geometric Surface Area	Pressure Drop
<i>Density (cells per in²/Wall thickness (mils))</i>		<i>Compared with a conventional 400/6 substrate</i>	<i>Compared with a conventional 400/6 substrate</i>
350/5.5	80%	Reduced (-4%)	Reduced (-24%)
600/4	80%	Increased (+26%)	Increased (+30%)
400/4	83%	Increased (+4%)	Reduced (-20%)

Thermal and Mechanical Durability

Exhaust gases can reach extreme temperatures and are highly variable, producing thermal stresses within the converter. The ceramic composition used in Corning Celcor thin-wall substrates is highly resistant to thermal shock resulting from sudden and severe temperature changes. In addition, these advanced substrates can operate effectively at temperatures of 1200° C and can withstand spikes of up to 1400° C.

The Choice is Yours

Corning Celcor thin-wall substrates are available in a choice of configurations.

Cell Density (cps)	Wall Thickness (mils)
350	5.5
400	4
600	4

Discover Advanced Solutions with Corning Celcor Substrates

Corning Celcor thin-wall substrates are part of an extensive family of advanced ceramic substrates designed to meet your most demanding needs. For additional information, please contact your Corning representative, or contact:

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