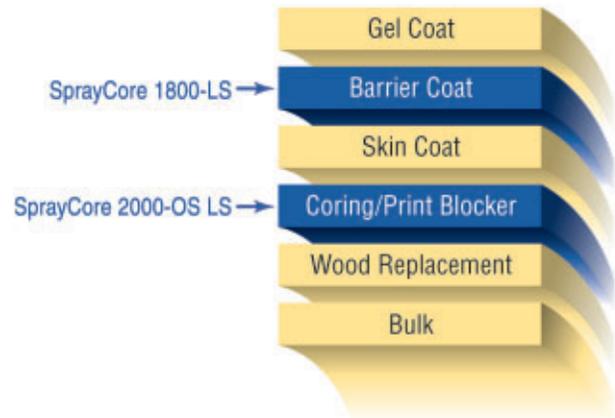


*Reduce Emissions and Increase Production  
With Low Styrene Sprayable Materials*

One of the most pressing issues confronting boat builders today is the National Emission Standards for Hazardous Air Pollutants (NESHAP), also known as MACT standards. Because these standards place a cap on styrene emission levels, boat builders using traditional FRP materials in an open molding manufacturing process are limited in their production capability. If manufacturers can't increase boat production, they can't grow their businesses.

ITW SprayCore has responded to this issue by introducing a line of low styrene products that rank significantly below the EPA's MACT standards. SprayCore's low styrene barrier coat is 22 percent styrene, and its low styrene coring material is 24 percent styrene. Both possess properties equal to or superior to the original formulas containing higher styrene levels. And ITW SprayCore's low styrene coring material is 5.3 pounds per gallon vs. 5.8 pounds per gallon for the standard coring material.

"ITW SprayCore low styrene formulas are lighter and easier to apply, reduce labor costs and produce a superior finished product," said Bob Anderson, technical manager at ITW SprayCore.



*Laminate Structure with  
SprayCore Sprayable Materials*

Fiberglass boat builders using ITW SprayCore low styrene sprayable materials will:

- Lower material cost through more efficient application (better coverage with less material).
- Decrease labor cost with accelerated application.
- Reduce finished boat weight, increase speed and fuel efficiency with low styrene products that are lighter and stronger than standard coring materials.
- Increase profitability by producing more boats while saving on material and labor cost.
- Use for open and closed molding applications.
- Create a healthier workplace and cleaner environment.

**Most importantly, using ITW SprayCore low styrene materials allows boat builders to increase production without increasing hazardous air pollutant (HAP) emissions.**



## Standard vs low styrene materials

To determine the production improvement, this study compares the effects of using standard vs. low styrene materials by a mid-size boat manufacturer headquartered in the southeastern United States. The boat manufacturer builds runabouts and mid-size pleasure boats from 18 to 31 feet in length. The study compares the boat manufacturer's actual 2003 production figures and emission levels with results for 2004 after the manufacturer substituted low styrene barrier coats and coring materials in its open molding manufacturing process.

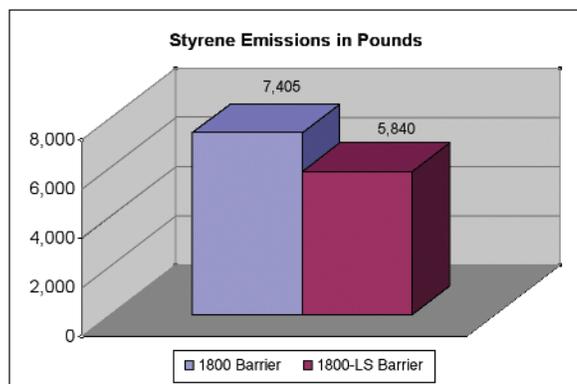
In 2003, the manufacturer produced 1,360 boats. They used SprayCore's standard 1800 Barrier Coat with 30 percent styrene, resulting in a styrene emission of 7,405 pounds. They also used SprayCore's standard 2000-OS Coring Material with 34 percent styrene, resulting in a styrene emission of 7,509 pounds.

In 2004, the manufacturer switched to SprayCore's low styrene 1800-LS Barrier Coat with 22 percent styrene, decreasing styrene emissions by 1,925 pounds, or 26 percent with the same square footage coverage. They also switched to SprayCore's low styrene 2000-OS LS Coring Material with 24 percent styrene, decreasing styrene emissions by 2,665 pounds, or 35 percent with the same square footage coverage. By changing to SprayCore low styrene barrier coat and coring material, the manufacturer decreased emissions by a total of 4,590 pounds.

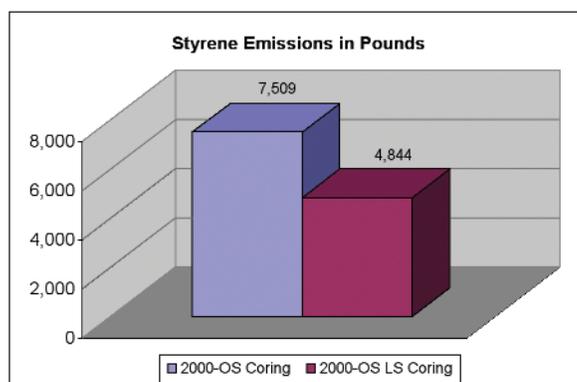
## Boost production, not emissions

These reduced emission levels are allowing this boat manufacturer to increase its production for 2004. Substituting the standard barrier coat with the low styrene version is allowing them to increase production by 33 units, or 2.4 percent. Substituting the standard coring material with the low styrene version is allowing the manufacturer to increase production by 46 units, or 3.4 percent without increasing emissions.

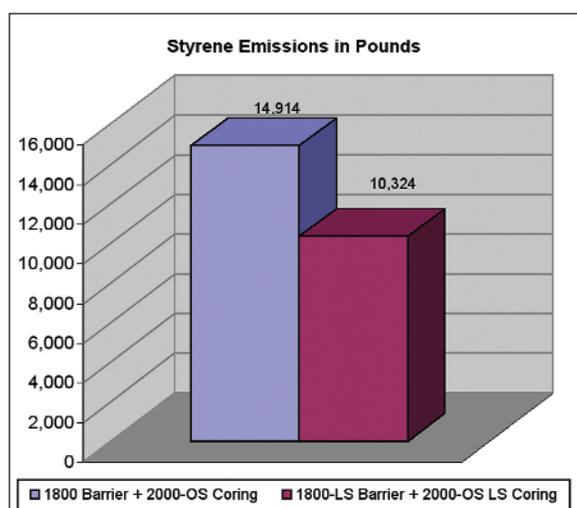
By incorporating SprayCore's low styrene 1800-LS Barrier Coat and low styrene 2000-OS LS Coring Material into its open molding manufacturing process, this boat manufacturer was able to increase its production for 2004 by 79 units, without increasing emissions.



The manufacturer decreased emissions by 1,925 pounds when using SprayCore low styrene sprayable barrier coat



The manufacturer decreased emissions by 2,665 pounds when using SprayCore low styrene sprayable coring material



The manufacturer decreased emissions by 4,590 pounds when using SprayCore low styrene sprayable barrier coat and coring material

“ITW SprayCore wants success for its clients,” said Bill Lauersdorf, general manager of ITW SprayCore. “We are committed to increasing manufacturer efficiencies and savings, as well as addressing environmental concerns. With low styrene products, everyone reaps the benefits. It helps the environment and it helps manufacturers to grow their businesses.”

### Many industries welcome low styrene products

Although initially developed for the marine sector, the qualities of SprayCore low styrene sprayable materials are equally beneficial to any industry looking to build better looking, lighter, stronger and more durable FRP products in less time, at a lower cost, and in a healthier environment.

ITW SprayCore manufactures an extensive line of products (available in low styrene) to serve a variety of FRP markets – both open molding and closed molding processes. End products manufactured using ITW SprayCore technologies include everything from bath tubs and shower stalls, pools and spas, RVs, camper tops and truck bed covers to windmill blades for electrical power generation.

### About ITW SprayCore

ITW SprayCore markets its award-winning, patented products under the brand names of SprayCore® and AlphaCoat®. SprayCore sprayable barrier coats, coring and wood replacement materials are used to construct composite structures that are lighter and stronger than laminates built with other products. AlphaCoat sprayable fillers/primers are a series of modified polyesters designed to protect and improve cosmetics of various substrates while reducing the sanding, preparation time and labor required for a Class A finish.

In 2002, SprayCore 4000 received the National Marine Manufacturers Association’s Innovation Award, hailed as an excellent multi-functional material that can be used as a barrier coat, bulk print barrier, core and wood replacement – helping reduce costs by decreasing labor and warranty costs, while meeting or exceeding government standards for styrene emissions.

ITW SprayCore is committed to increasing manufacturer efficiencies and savings, as well as addressing environmental concerns such as reducing Volatile Organic Compound (VOC) emissions and meeting the EPA’s Maximum Achievable Control Technology (MACT) standards. ITW SprayCore products are available in formulas that meet or exceed legal and environmental requirements.

ITW SprayCore is a division of Illinois Tool Works Inc., a Fortune 200 diversified manufacturing company with more than 90 years of history. ITW’s 625 decentralized business units in 44 countries employ nearly 47,500 people who are focused on creating value-added products and innovative customer solutions.

For more information, visit [www.itwspraycore.com](http://www.itwspraycore.com), call toll-free 1-866-470-1462, international 727-573-3545, or email at [info@spraycore.com](mailto:info@spraycore.com).

Emission requirements vary by local, state and federal regulations. At the time and location of this study, the marine MACT compliant maximum emission level for atomized spray applications was 28%.

#### Formula for emission calculation - Airless Sprayer (atomized)

##### Barrier Coats

Pounds of material x % of styrene x 50% = pounds of emission

##### Coring Materials

Pounds of material x % of styrene x 17% = pounds of emission

*\* When a styrene % range is given, the higher number must be used to calculate emission*



**ITW SprayCore**  
*Inventing Sprayable Syntactics*

866-470-1462 • International 727-573-3545 • Fax 727-299-9797  
[www.itwspraycore.com](http://www.itwspraycore.com)