



INNOVATIONS FOR LIVING™

CASE STUDY

The New York City's National Memorial Fountains... ...reinforced with Owens Corning's **Advantex**[®] corrosion resistant glass reinforcements

The recent unveiling of the National 911 Memorial Fountains at New York City's World Trade Center, marked the tenth anniversary of those who lost their lives in one of the nation's worst tragedies.



In 2005 the National September 11 Memorial & Museum at the World Trade Center Foundation was set-up to oversee construction of a Memorial on the site of the twin towers. The Foundation opened a worldwide design competition and received more than 5,000 submissions from 63 countries.

The winning design, entitled "Reflecting Absence," is an eight-acre plaza with 400 trees that surround two gigantic recessed reflected pools. The challenge was to keep 600,000 gallons of water in each pool flowing and sparking throughout the year.

Before the first pipe and fitting were wound for this project, there was approximately three years of design and engineering efforts by

Industrial Fiberglass Specialties. Working with the Memorial Fountain architects and specification team, Industrial Fiberglass Specialties provided guide specifications for the quality and performance standards needed in fire resistant FRP composite piping system.

The two materials of construction approved for use at the memorial fountain site were 316 stainless steel and FRP composite pipe. Industrial Fiberglass Specialties is a full service provider of FRP composites.

Key Facts: FRP Composite Pipe

Glass Type: **Advantex**[®] corrosion resistant fiber

FRP Pipe System Length: 4,300 lineal feet of 12" & 16" diameter FRP pipe.

Weight Savings: 677,760 lbs. saved vs. 316 SS

Projected Service Life: 50 Years

Fabrication Process: Filament Winding

Resin: Vinyl polyester resin with heat-cured fire retardant phenolic resin on exterior

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4,300 lineal feet of 12" and 16" diameter FRP composite pipe from Industrial Fiberglass Specialties was utilized on the project. As well as, heavy duty socket flanges that allow for over-wrapped hubs for maximum joint integrity.

Industrial Fiberglass Specialties FRP composite pipe is also designed to handle corrosive water treatment chemicals without attack that might occur with some metal alloys. The interior liner, structural wall and exterior fire retardant reinforcements were all provided by Owens Corning, USA. Industrial Fiberglass Specialties is a long time user of glass reinforcements from Owens Corning.



“Advantex® glass fiber reinforcement is an excellent product for corrosive applications and environments,” said David Dean, Vice President New Business Development, Industrial Fiberglass Specialties.

Contacts:

Industrial Fiberglass Specialties, Inc.

www.ifs-frp.com

Email: sales@ifs-frp.com

Phone: 937-222-9000

Dayton, Ohio

Owens Corning Advantex® Corrosion Resistant Glass Fiber Reinforcements:

Email: Advantex.americas@owenscorning.com

Advantex.europe@owenscorning.com

Advantex.asiap@owenscorning.com

For more information call: (614) 777-1384

OWENS CORNING
COMPOSITE MATERIALS, LLC
ONE OWENS CORNING PARKWAY
TOLEDO, OHIO 43659
1.800.GET.PINK™
www.owenscorning.com
www.ocvreinforcements.com

EUROPEAN OWENS CORNING
FIBERGLAS, SPRL.
166, CHAUSSÉE DE LA HULPE
B-1170 BRUSSELS
BELGIUM
+32.2.674.82.11

OWENS CORNING – COMPOSITE SOLUTIONS BUSINESS
ASIA PACIFIC REGIONAL HEADQUARTERS
UNIT 01, 02, 05, 39/F, PUDONG KERRY PARKSIDE,
1155 FANG DIAN ROAD, PUDONG, SHANGHAI
201204, CHINA
+86.21.6101 9666

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