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Project Profile

Client	:	Damus Limited
Project **#45**	:	bpTT – Beachfield Facility
Description	:	3ft square x 3ft high fiberglass access platform with removable handrails. Four (4) complete units as above supplied.
Products	:	FRP 1.5” thick, 1.5” sq. mesh molded grating FRP structural shapes – 6” and 8” channel; 3” angle, 2x1/4” sq. tube, kickplate Resin: Type IFR

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Project Profile

Client	:	Alpha Engineering and Design Limited
Project #**79**	:	Angostura Development, Tobago
Description	:	Plate covered grating to Sewerage Lift Station with fiberglass lift handles.
Products	:	FRP 1.5” thick, 1.5” sq. mesh molded grating Drp - flat plate 1/4” thick; 5/8” dia solid round rod Resin: Type IFR
General	:	This product provides an economical, corrosion resistant, lightweight solution to odor control and prevention of debris falling in. The lift handles are all fiberglass and drop down to reduce the trip hazard.

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Project Profile

Client	:	TOSL Engineering
Project **#70**	:	Petrotrin – Trinmar SBU Tank Farm
Description	:	Replace existing corroded galvanized steel grating cover with fiberglass grating to reduce maintenance costs and provide a safer work environment for personnel taking samples.
Products	:	FRP 1.5” thick, 1.5” sq. mesh molded grating with gritted surface FRP 6” wide flange beams Resin: Type IFR

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Project Profile

Before :

After:

Client: RBTT Bank Limited

Project: Sangre Grande Branch
- Air Condition Platform

Description:

A continuously moist environment caused a maintenance problem for the Client. In addition the deteriorated structure posed a hazard for personnel accessing the A/C units for routine maintenance.
FRP grating, a new product to the Client, was evaluated for its cost/ benefit and structural properties compared to steel.

FRP was chosen for the following reasons:
- little maintenance required
- non-skid feature
- short installation time minimizing inconvenience
- reasonable price
- final aesthetics which would change little with time

Products:

2-1/8” thick, 2” sq. mesh plate covered molded grating with grit surface to support 2No. units – 2ton each

Mini-mesh grating along catwalk

6” FRP WF beams

Resin: Type IFR

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Project Profile

Client	:	United Engineering Services Limited
Project **#74**	:	British Gas – Dolphin Project
Description	:	Deck grating to new Production Skid for use on natural gas platform.
Products	:	FRP 1.5” thick, 1.5” sq. mesh molded grating, meniscus surface. Resin: Type IFR ASTM E-84 Fire Rating of 20 or less

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Project Profile

Client: PETROTRIN

Project #21 : Acid Plant Grating

Description:

In mid 2001, the client undertook the task of executing an environmental management plan for the effluent of its sulphuric acid plant.
The use of galvanized steel grating in this environment of the drainage system proved a maintenance problem as this material required replacement approx. every 4-6 months.
By early 2002, a decision was taken to investigate alternatives to replace the now corroded steel grating.
FRP molded grating in the **proprietary Vicorr® resin** system was selected, and installed on 8 catch-pits in an afternoon.

These pictures, taken in August 2004, show the FRP Vicorr® grating on the catchpits in good condition compared to the steel and concrete around.

Products:

Fibergrate 1” thick, 1.5” sq. mesh, molded grating, meniscus surface.

Resin: Vicorr®

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Project Profile

Owner	:	Water & Sewerage Authority of Trinidad and Tobago
Client	:	EIMCO – KCP Limited, India
Project **#29**	:	New Beetham WWTP, Trinidad – Flocculation Panels
Description	:	Supply of 114No. – corrugated fiberglass panels 4mm thick, 1.5m x 3m approx for use as a separator wall in Clarifier tank. Each of 4No. tanks utilizes 28No. panels mounted onto a rotating skimming/ scraping assembly. Fiberglass was chosen over aluminium due to its chemical resistance, ease of fabrication on site for assembly and cost.
Products	:	Special lay-up on new mold using IFR resin system.

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Project Profile

Client	:	Alpha Engineering & Design Limited
Project **#44**	:	Tobago Plantations – Villa Cluster #2
Description	:	Supply of 46No. – gratings (18” – 34” diameters) for use in grassed areas over drainage inlets.
Products	:	FRP 1” thick, 1.5” sq. mesh molded grating with meniscus surface. Color: Forest Green Edge banding done locally for **aesthetics only** as grating is two-way spanning. Resin: Type IFR

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Project Profile

Before:

After:

Client: Desalcott

Project #64: Repair of 48” frp Influent Line to Basins

Description:

The line suffered a shear failure as evidenced by the shape of the break in the pictures to the left. This occurred as a result of washout of the compacted fill support below the pipe. This failure resulted in the shutdown of the plant and inconvenience to consumers.

The solution was a 150psi rated outer weld with the lowest layers of glass extending to 6” either side of the crack’s extremities. This resulted in a final weld of width approx. 7 feet.

A single stage internal weld was installed of width 36”.

The works were completed within 24 hours of start and the plant was commissioned 24 hours later after allowing the weld to set.

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Project Profile

Client	:	Biwater International Limited
Project **#43**	:	New Beetham WWTP – Bioreactor Drain
Description	:	Supply and install approx. 380 linear feet of 10” dia – DR21 hdpe pipe as drain to Bioreactor. Included 5No. valved connections and 2No. cleanouts *(one shown above*)

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Project Profile

Client: Biwater International

Project #43: New Beetham WWTP

Description:

Supply and installation of 8” and 12” diameter DR21 Sclairpipe.

8” piping connects the Process Waste Pump Station to the Super-natant Pump Station and operates at 4.5 bar.

The 12” piping connects from the Sludge Building and moves digested sludge to the lagoons. The operating pressure on this line is also 4.5 bar.

Each line is approx. 5000 linear feet of continuously welded pipe. There are three (3) small bridge crossings along the route where the pipes are supported on structural steel sections. At these points air-valves are positioned for venting.

This entire plant has been constructed on reclaimed swamp-land. The structures are all piled however settlements of approx. 20” are expected in the fill over the lifetime. Hdpe was chosen for its flexibility under these conditions.

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Project Profile

Client	:	Gregory Aboud
Project **#41**	:	Mode-Alive Building - #34 Frederick Street, Port-of-Spain
Architect	:	Basso Leonard Architects Collaborative
Description	:	This building faces West and overlooks a wide causeway such that it receives no shade from the afternoon sun. The architects designed a cantilever awning to provide some shade combined with a series of horizontal screens. The use of painted steel would have caused a maintenance problem and aluminium was too costly. Fiberglass grating proved to be a lightweight, maintenance free solution that was also economical. The standard light grey color also matched the architects' color scheme.
Products	:	FRP 2" thick, 2" sq. mesh molded grating, meniscus surface Resin: Type IFR

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Project Profile

Client	:	Carillion (Caribbean) Limited
Project **#83**	:	BHP Billiton – Angostura Project - Valve Chamber Covers
Description	:	Supply of 38” diameter grating covers with banded edges to valve chambers. Fiberglass grating used as alternative to gal. steel grating.
Products	:	FRP 2” thick, 2” sq. mesh molded grating, meniscus surface Resin: Type IFR

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Project Profile

Client	:	Carillion (Caribbean) Limited
Project **#19**	:	Republic Bank Limited – Endeavour Operations Centre
Architect	:	ACLA.works
Description	:	Supply, fabrication and installation of approx. 8,500 sq. ft. of Fibergrate Rigidex 1 moltruded grating to exterior catwalks. Rigidex 1 moltruded grating was chosen for its corrosion resistance which reduces maintenance on the structure. Fibergrate Rigidex 1 also gave a similar appearance to aluminium grating at a more economical price and without the worries of galvanic corrosion.
Products	:	Fibergrate Rigidex 1, 1.5” thick Moltruded grating with grit surface. Resin: Corvex

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Project Profile

Client	:	Carillion (Caribbean) Limited
Project **#87**	:	BHP Billiton – Angostura Project - Drainage grating
Description	:	Fabricate and supply 242 No. – 300mm wide x 1200mm long banded grates for use over drains. To achieve the banded edge all around, one side had to be adjusted as the number of standard whole grids would not allow for fit. This was done as per FRP's specifications.
Products	:	FRP 1.5" thick, 1.5" sq. mesh molded grating Resin: Type IFR

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Project Profile

Client	:	Petrotrin
Project **#82**	:	#8CDU – Saltwater Piping – Strainer by-pass
Description	:	Supply of materials and labour to effect the modification of pipe spools supplied by Fibercast to site alignment. Two – 18” dia – 3 stage welds, Four – 6” dia – 2 stage welds
Products	:	Stock vinylester resin compatible with Fibercast resin system, fiberglass material

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Project Profile

Client	:	Biwater International Limited
Project **#31**	:	New Beetham WWTP – 54” dia Forced Main from Existing Pump Station to New Plant
Description	:	Supply and install approx. 1500 linear feet of 54” dia filament wound fiberglass pipe and header manufactured by Industrial Plastic Systems, Inc. of Florida, USA. The site consists of reclaimed land with projected settlements of up to 20in over the project life span. The main piping is designed for 30psi and the header for 100psi operating pressure. The Works included 50No. – 54” (30psi), 6No. –54” (100psi) butt welds, installation of couplings, installation of fiberglass lugs on pipe to create restraints.

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Project Profile

Project #39 : New Beetham WWTP - Supply and installation of fiberglass handrail and grating

Description: Design, fabricate and install new fiberglass stairs to replace existing 40 year old reinforced concrete staircase in Wet Well.
Design, fabrication and install new fiberglass stair with platform to facilitate access over newly installed equipment at lowest

Fiberglass was chosen over steel or concrete for:

- Corrosion resistance
- Ease of fabrication and installation.
- Low maintenance

Products:

- FRP structural shapes including 8" channel, 3" x 3/8" angle
- FRP 2 x ¼" sq. tube handrail
- 2" thick, 2" sq. mesh molded plate covered grating with grit surface
- Resin: Type IFR
- All hardware used is 316SS
- Structure is fixed to existing concrete using chemically anchored 316SS studs. Lower plates are slotted to allow for movement

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Project Profile

Project #89

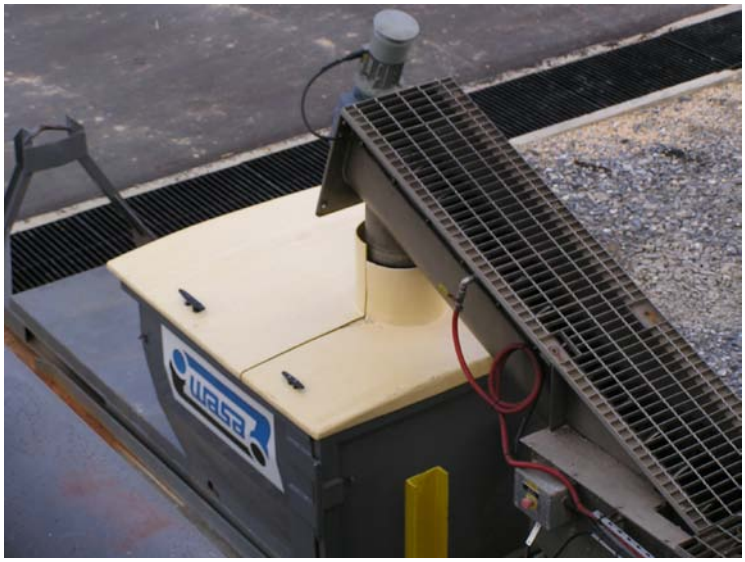
New Beetham WWTP

- Supply of Four (4) frp covers to Waste Bins at Grit Plant and Pumphouse.

Description:

The waste collection bins at both the Pump-house (above) and the Grit Plant (below) collect screened material from the raw sewage entering the plant.
This material presents two problems:

- Foul odours
- Attracts flies



Covers were required to mitigate the problems above and fiberglass was chosen for its:

- lightweight – easy to lift
- durability
- easy to clean

The covers were fabricated using lay-up in specially made moulds as each was different. Both the inner and outer surfaces were gel-coated to provide a UV resistant, easy to clean surface.

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Project Profile

Project #94

IWES Offshore Containers

- Supply of fiberglass grating covers to DNV Approved Totes.

Description:

Riggers are required to stand on the upper surfaces of the framing to attach both lifting lines and hoses.
The grating also has to be removed to facilitate vessel installation.
Fiberglass grating was chosen for its corrosion resistance, light weight and skid resistance.

Underside showing stiffeners

Top View showing hardware &
Valve Access cover (partially hidden)

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Project Profile

Client	:	Petrotrin – Trinmar SBU
Project # **7**	:	Replacement of Cladding on CP-2 Platform
Description	:	Fibergrate Dynaform flat sheet was chosen to replace the existing corroded steel plate cladding on the entire platform for its long-term durability and corrosion resistance. It simply provides a maintenance free solution for cladding in this marine environment.
Products	:	3/8” thick, Fibergrate Dynaform flat sheet – 12,000 sq. ft. Vulkem 116 polyurethane sealant

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Project Profile

Client	:	Biwater International Limited
Project **#104**	:	New Beetham WWTP – Existing Pumphouse Inlet Channel Grating
Description	:	Supply and install approx. 200 sq. ft of 2” thick, 2” sq. mesh, molded fiberglass grating to 4No. channels leading to screens. The decision was taken not to saw cut a rebate in the 40 year old concrete for fear of exposing the reinforcement to corrosion. Fiberglass angles were used to support the grating on the concrete surface. The gratings were supplied in sections to facilitate easy lifting and kickplates were placed on all end sections for safety. Make-up of edges using grout by others.
Products	:	2” thick, 2” sq. open mesh molded grating, Type IFR resin 3” x ¼” FRP angle

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Project Profile

Project #11

- Desalination Plant, Pt. Lisas Trinidad

Description:

Supply of approx. 4000 lin. ft. of filament wound frp pipe of size 16" – 48" and varying pressure ratings.
The piping is installed throughout the plant both above and below ground.

Shown in pictures are:

Top: 48" Clearwell header

Mid: 36" Distribution header off finished product storage tank

Below: 36" Cartridge Filter Header

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Project Profile

Project #75

New Beetham WWTP

- Installation of additional bearing support for gratings along Mixed Liquor Channel of Bioreactor

Description:

Upon filling the water retaining structure, the outer walls were found to have deflections such that the installed walkway grating panels had less than the minimum bearing surface required.

The bearing surface was increased by 2-1/8" either side using 2" thick, plate covered molded grating turned on edge and fixed along the entire length of the channel.
This material provided a structurally sound, corrosion resistant solution to the problem that was also economical.

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