

Unicomer (Courts) Caribbean Distribution Complex Freeport.

Trinidad

Unicomer (Courts) Have built their Regional Distribution Centre, in Freeport Trinidad. This complex encompassed a Warehousing area of over 250,000 Sq. Ft., Plus External Container Hardstand for over 30 containers, plus car parking and retail areas.



Engineer
SCL (Trinidad) Ltd

Product
Macro Synthetic Fibre +
Micro Synthetic Fibrin

Function
DURUS Macro Synthetic was used to replace conventional steel mesh from the concrete slab. FIBRIN XT to improve the abrasion resistance.

Background

- During the planning and design stages, SCL were consulted by the Civil Engineers, with a view to delivering a superior product, in below the specified time, and with cost savings.
- SCL Brought in the engineers from Adfil. Adfil Engineers came up with a unique concrete design, where other than Dowell Bars between joints, there would be no structural or secondary steel, either Bars or mesh.

- Adfil's Engineers proposed a design using 4kg/m³ of Durus to replace all the steel bars and mesh.

Solution

- The use of Durus macro synthetic fibres allowed the removal of steel mesh from the concrete slab.
- The use of Fibrin XT monofilament fibres increase the impact and abrasion resistance of the concrete slabs to extend durability of slab surface.



Benefits of the Solution

- Contractor not having to purchase steel mesh. Which resulted in saving in material cost as the fibres were cheaper than steel.
- Contractors not having to rent Concrete Pumps since the trucks were able to drive on the prepared subgrade.
- Significantly decreased any health and safety concerns normally associated with handling steel mesh.

Installation benefits

- The use of Durus macro synthetic fibres reduced construction time by eliminating the need to lay and fix steel mesh.
- It allowed direct access to all areas of the concrete pour for delivery lorries. Allowing direct discharge into the formwork instead of the need for a concrete pump.

Result

The project was completed and delivered to the owner ahead of schedule allowing the facility to be opened and in use before the programmed date, this gave the owner a financial benefit.

The use of fibre reinforced concrete in this project eliminated all the risk associated with corrosion of steel mesh.

Products used:



DURUS Macro Synthetic Fibres - Macro fibre made out of polypropylene. Improves the bond with the concrete.



Fibrin XT Micro Fibres - Micro fibre made out of polypropylene. Reduces plastic shrinkage.