

# 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/m<sup>3</sup> 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.