

# A V Dawson Internal North East Rail Freight Automotive Steel Store

North Wales, United Kingdom

A V Dawson has a new state of the art steel store. The site stores materials for the Steel & Automotive Industry. The warehouse is equipped with a Heat & Humidity controlled environment, ideal for the products it will hold. It was given the LABC Building Excellence Award which takes into account the building's Innovation & Sustainability credentials.



Project owner  
**A V Dawson**

Product  
**Durus S300**

Function  
**Used in the ground bearing concrete slab for the impact values**

Contractor  
**Nationwide Diamond Group**

Volume  
**2000m<sup>3</sup> of concrete**

## Challenge

The main challenge was to build a highly durable concrete slab suitable for heavy equipment being moved around. The second requirement was to reduce the programme time of building the slab so that the facility could be opened in a timely manner.

## Solution

The solution was to use 4 kg Durus S300 Macro Fibre /m<sup>3</sup>, the inclusion of which replaces the original steel mesh to reinforce the concrete slab and enhances the impact resistance.

Using this solution saved 5 days off the construction of the slab by eliminating the time needed for setting up the original steel mesh.



Rail line inside the building



Power floated finish with saw cuts at 6 meter spacings

#### Benefits of the solution

By replacing the steel mesh with the Durus Macro fibres in the concrete, the slab benefited from better impact resistance and also better resistance to plastic shrinkage cracks whilst the concrete was still setting.

The carbon footprint savings achieved by using the Durus in place of the steel mesh contributed towards the LABC award.

#### Installation benefits

Construction time was saved by not having to place and fix two layers of A393 steel reinforcement. The follow-on trades and services were able to gain access earlier due to the quicker slab construction.

By not having layers of mesh being moved around site and fixed into position, a lot of health & safety issues were alleviated.

#### Result

- Improved durability of the concrete slab.
- Faster and more cost effective slab construction.
- Reduced manual handling and health & safety issues.
- Reduced carbon footprint.

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#### Products used



**Durus S300 BS EN 14889 Class 2 Embossed Macro Fibre at a 4 kg per cubic meter of concrete.**