The original design was for a 200 mm thick slab, with C32/40 concrete reinforced with a top layer of A142 steel reinforcing mesh. The AD team worked with the client and contractor and a revised design was proposed which eliminated the need for the layer of A142 mesh and all the other associated costs were removed.

Durus enhanced concrete gave the contractor the benefit of placing the concrete both directly from the truck mixer and in restricted areas through a pump. Health and safety hazards connected with using steel mesh reinforcement were removed and the project was completed 4 weeks ahead of schedule. This enabled the client to open up the processing unit early and increased the Company profit.

Case Study 2
External Concrete Pavement

The Adfil team reviewed several precast products in which traditional steel reinforcing mesh was predominantly used. Steel mesh is very labour intensive and can lead to an increased risk of health and safety issues in the precast factory. Due to its nature, steel can corrode/rust and can cause unsightly staining on the surface of concrete. Previously steel mesh was only added to reduce damage of the precast elements when they were removed from the mould, transported and placed on site.

Nowadays Durus macro synthetic fibre offers a 3-dimensional reinforcement matrix which means that the concrete resists impact damage, whilst reducing costs and removing health and safety hazards.

A UK Water Authority needed a rapid and effective solution that removed the logistical problems associated with using traditional steel mesh. The contractor was looking to minimise labour costs and improve site safety whilst also meeting WRAS (Water Regulations Advisory Scheme).

After the engineer approved our design Durus enhanced concrete was placed inside a covered water tank. The concrete containing Durus removed the need for steel mesh on the site which meant that excessive handling issues were also removed providing a faster building technique.

Case Study 3
Precast Concrete Walls

The AD team reviewed several precast products in which traditional steel reinforcing mesh was predominantly used. Steel mesh is very labour intensive and can lead to an increased risk of health and safety issues in the precast factory. Due to its nature, steel can corrode/rust and can cause unsightly staining on the surface of concrete. Previously steel mesh was only added to reduce damage of the precast elements when they were removed from the mould, transported and placed on site.

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After the engineer approved our design Durus enhanced concrete was placed inside a covered water tank. The concrete containing Durus removed the need for steel mesh on the site which meant that excessive handling issues were also removed providing a faster building technique.

Case Study 4
Water Treatment Works

The AD team reviewed several precast products in which traditional steel reinforcing mesh was predominantly used. Steel mesh is very labour intensive and can lead to an increased risk of health and safety issues in the precast factory. Due to its nature, steel can corrode/rust and can cause unsightly staining on the surface of concrete. Previously steel mesh was only added to reduce damage of the precast elements when they were removed from the mould, transported and placed on site.

Nowadays Durus macro synthetic fibre offers a 3-dimensional reinforcement matrix which means that the concrete resists impact damage, whilst reducing costs and removing health and safety hazards.

A UK Water Authority needed a rapid and effective solution that removed the logistical problems associated with using traditional steel mesh. The contractor was looking to minimise labour costs and improve site safety whilst also meeting WRAS (Water Regulations Advisory Scheme).

After the engineer approved our design Durus enhanced concrete was placed inside a covered water tank. The concrete containing Durus removed the need for steel mesh on the site which meant that excessive handling issues were also removed providing a faster building technique.
The Durus fibre range is revolutionising concrete construction. By adding Durus to the concrete mix, the synthetic fibres eliminate the need for steel mesh with the benefits of increased performance, reduced cost and health and safety advantages. Durus concrete is more flexible, has a greater resistance to plastic shrinkage cracking and is far easier and safer to use than traditional steel reinforcement. Using Durus fibres will enhance the toughness of the concrete with no risk of the reinforcement corroding or staining the concrete surface.

What is Durus?

The Durus product range consists of microfilament fibres that are specifically extruded from polymer-forms a fine high performance, synthetic microfibre. By adding to the mix, Durus increases the toughness of the finished concrete. The finished product has all the strength of traditional steel reinforced concrete, with a 3-dimensional ratio of fibres achieving a more flexible, performance-oriented solution.

Proven technology – guaranteed for a lifetime of use, our engineers can deliver a complete bespoke design service to suit your project, with calculations. To demonstrate absolute confidence in this proven technology, we can offer professional indemnity insurance to suit your requirements.

Flexible application solutions

This technology can be used in

architectural, Precast and ready mixed

concrete applications. Durus can be

used in a concrete that comes into

contact with water intended for human

consumption, has satisfied the criteria

set out in Part 1 issue (1) BSS and

complies with the requirements of the

Water Regulations Advisory Scheme.

Tests of Effect on Water Quality. Our

Water Regulations Advisory Scheme

is in line with the Water framework


Combination fibre solutions

Our engineered design will

sometimes combine both micro synthetic fibres

and micro synthetic fibres. This will

create the optimum performance

when it is to be used in critical, high

strength environments where life span and

structural integrity are key.

Easy mixing options

Durus fibres can be added by hand

to the truck mixer or pan mixer, or

can be added using a fibre integration

machine. Our solutions and guidelines

for mixing, laying and finishing

instructions. We can also suggest

specialist testing companies who could

certify the concrete for you giving you that peace of mind.

Some time and money

Use Durus and then no time

consuming placing of steel mesh

before pouring the concrete. In

today’s construction world, saving

time means saving money. Durus

eliminates potential budget and cost

issues due to fluctuating steel prices.

Value for money replacement

Steel fibres can protrude from the

concrete surface which is not

acceptable. Durus macro fibres

are positioned

3D reinforcement

The fibres can be easily and safely

added to the concrete.

The fibres do not protrude from

the finished concrete. The finished

concrete is more flexible, has a greater resistance to plastic shrinkage cracking and

creates a hazardous environment.

No corrosion

The presence of water, salt and acids

are all fundamental causes and

accelerates the corrosion of

traditional steel reinforcement.

Durus macro fibres are not affected by these substances.

This will offer clients the reassurance that projects using Durus will have long-term integrity.

Easier to handle than steel reinforcement

Durus is lighter than steel, making it

easier to handle. Freight costs and storage spaceise also substantially

reduced.

Guaranteed accuracy of installation

Steel mesh can be misplaced, with

a dramatic impact on quality and

production schedules, particularly

where it has to be repositioned prior

to the concrete pour. Durus cannot be

misplaced, eliminating such problems.

No relocation

Durus macro fibres are positioned

providing 3-dimensional reinforcement.

Increased ductility

Durus macro fibres are positioned

providing 3-dimensional reinforcement.

Durus benefits over steel reinforcement

- Cost effective & efficient
- Increased flexural strength
- Increased impact resistance
- Increased tensile strength
- Increased durability
- Potential for increased joint spacing

A unique fee service for architects, engineers and specifiers

Why not take advantage of our free design service – tailored to your specific project. Our design work closely

with you to supply all calculations and technical specifications. In addition to producing a detailed

project proposal that sets out the financial benefits of using Durus instead of steel. We’ll also provide on-site

support for any aspect of Durus mixing, placing and finishing. The way, you can be sure you’ve got the right

solution for all aspects of your project.

Responsible design considerations

We take health and safety issues very

seriously. The UK Health and Safety

Commission states that the challenge is to ensure that health and safety considerations are not

overwhelmed by aesthetic and commercial priorities and, conversely, that health and safety do not conflict

with aesthetics. However, designers have considerable potential to eliminate hazards and reduce risks associated

with construction work, as well as those associated with building use, maintenance, cleaning, and eventual
demolition.

Our Durus fibres are specifically

designed to be extremely use

friendly and considerably safer than

conventional steel reinforcement.

Call us now and take advantage of our FREE design service to find out how much time and money you

can save on your construction project using Durus fibres.

Durus® Fibre Range

Making steel mesh a thing of the past... and reducing your costs and workload

Durus® technical advantages

- Cost effective & efficient
- Increased flexural strength
- Increased impact resistance
- Increased tensile strength
- Increased durability
- Potential for increased joint spacing

Adfil Total Solutions