

Meshes

Basic Concept

DYWIDAG-Systems International through partnership with specialist Swiss Geo-hazards solution provider GEOBRUGG offer a range of high-tensile steel, flexible facing meshes.

GEOBRUGG have vast experience in reducing the impact of rock fall and developed their first Avalanche Protection Structure made of wire rope net in 1951. These avalanche prevention structures were exposed to rockfalls during snow-free periods, and they succeeded in holding these rocks.

Following the success of the Avalanche Barriers, GEOBRUGG developed the TECCO® SYSTEM³. The first mesh was made from High Tensile Strength Steel wire. This then evolved into more discrete, lighter meshes such as DELTAX® and more robust cable nets designed to resist large angular blocks known as SPIDER®.

The synergy between DYWIDAG-Systems International & GEOBRUGG allows the supply of an entire Rock Fall Protection System from one source.



**DYWIDAG-SYSTEMS
INTERNATIONAL**



Safety is our nature

Key Features

■ High Tensile Steel Wire

Mild steel wire can vary in strength anywhere between 350-550N/mm². Geobrigg products utilize High Tensile Steel with wire with strengths no less than 1,770N/mm² for standard products and 1,650N/mm² for stainless steel meshes. Using higher strength wire allows for either a smaller diameter wire to be used in order to meet the same mesh strength as the mild steel alternative or for higher strength meshes to be produced from the same size wire.

■ Low Strain Characteristics

Both the characteristics of the wire and the mesh geometry enable load to be carried by Geobrigg meshes with minimal strain/elongation under load. The reduced strain characteristics of Geobrigg meshes allow their facing systems to spread load between rock bolts or Soil Nails efficiently. Geobrigg meshes have characteristic strain values of between 6-7% at their UTS compared to mild steel meshes which strain anywhere between 12-20%.

■ Low Weight

The additional strength offered by the high tensile strength steel allows meshes to contain less steel m² than the mild steel alternative.

DELTAX® 53kN/m

Roll Size - 3.9m x 30m = 79kg

Mild Steel Hex Mesh 50kN/m

Roll Size - 2m x 25m = 80kg

Corrosion Protection

Geobrigg High Tensile Steel Wire Mesh utilises advanced galvanizing alloys to achieve a high level of resistance to physical damage and corrosion. Both SUPERCOATING® and ULTRACOATING® treatments contain additional metals that improve the coatings performance compared to zinc alone.

SUPERCOATING® is applied to the 3mm and 4mm TECCO® products as well as the SPIDER® System. SUPERCOATING® is a 95% Zinc %5 Aluminium alloy. The addition of the Aluminium provides a smooth outer surface to the wire which reduces corrosion rates.

ULTRACOATING® provides corrosion protection for the 2mm TECCO® and the DELTAX® products. ULTRACOATING® combines Zinc & Aluminium with additional corrosion inhibitors.

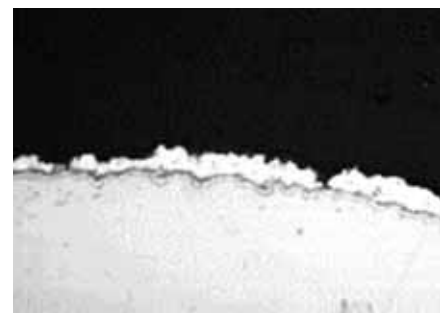
Both SUPERCOATING® & ULTRACOATING® can provide design lives of up to 120 years depending on the project specific environment.

Polymeric coatings such as PVC are not used on the standard High Tensile Steel Meshes due to their susceptibility to damage during storage, movement or installation. Polymeric coatings are prone to damage, through abrasion, at the key load transfer points, e.g. beneath bearing plates or when in contact with wire ropes.

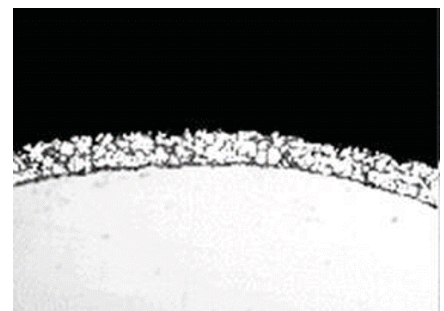
Both SUPERCOATING® and ULTRACOATING® have excellent self healing capabilities if damaged. When scratched, the zinc in the coating re-anodises filling any potential gaps in the coating.

The High Tensile Steel Wire used to produce the DELTAX®, TECCO® and SPIDER® systems are all double drawn. This process improves the uniformity and thickness of the galvanizing on the wire. By applying the corrosion protection to a larger diameter wire and then reducing the size by re-drawing without removing any of the coating, a more consistent and concentrated protection layer is established.

Double Drawing



Zinc coated wire



Double drawn ULTRACOATED Wire