

## **CORROSION PROTECTION («GALFAN»)**

### **Corrosion protection UNIK Wall gabions / stone baskets**

«**Galfan**» corrosion protection of welded steel mesh is a 95% zinc 5% aluminum coating that is applied to the iron wire prior to fabrication of the grid. «**Galfan**» is a trademark of the process developed by the Galfan Institute. "**Galfan**" has the same corrosion protection as other trade names called Tripel Life, Bezinal or Galmac. Each manufacturer provides its own trade name for the process and is licensed by the Galfan Institute.

Zinc Aluminum coating is superior to normal hot delay. The corrosion rate of 95% zinc 5% aluminum coating is parabolic instead of linear as it is for normal zinc coating.

The reason for the parabolic development of corrosion is that the zinc normally corrodes faster than aluminum during the corrosion process. The corrosion resistance of an aluminum-rich surface proves to be more resistant to corrosion than just zinc, thus increasing corrosion protection and prolonged service life.

Aluminum / zinc has a self-adhesive ability that makes the material highly resistant to corrosion caused by scratches and damage to the coating. The long life is due to the aluminum zinc coating giving the steel wire a triple corrosion protection. The first protection gets the steel wire through the coating forming a passivating barrier to general corrosion. The second protection is due to the formation of a galvanic element when the wire is exposed to moisture (electrolyte), which causes zinc ions to move, thus protecting exposed steel from corrosion in scratches or damage. A third advantage of the coating is that it has a finer microstructure and provides better cathodic protection so if the surface gets scratches or damage, corrosion protection is maintained. (sometimes referred to as self-repairing)

Based on long-term location studies, it has been established that durability of zinc-aluminum coating is three to four times the life expectancy of a clean zinc coating for the same coating weight.

Gabions **produced in Europe** are protected with zinc-aluminum coating and replace common hot delay. In some cases, the zinc / aluminum replaces the PVC / Zinc coated materials except in extreme exposure conditions where gabions are exposed to saline or salt spray conditions.

Aluminum zinc can be used in considerably more corrosive environments than for example hot-dip galvanized steel. Aluminum zinc is the only metal-coated material that can be used in corrosivity classes C3 and C4.

C3 - Atmospheres with a certain amount of salt or medium amounts of air pollution. Urban areas and light industrialized areas. Areas of influence from the coast.

C4 - Atmospheres with medium amount of salt or significant amounts of air pollution. Industry and coastal areas.

Ref: EN ISO 12944-2.