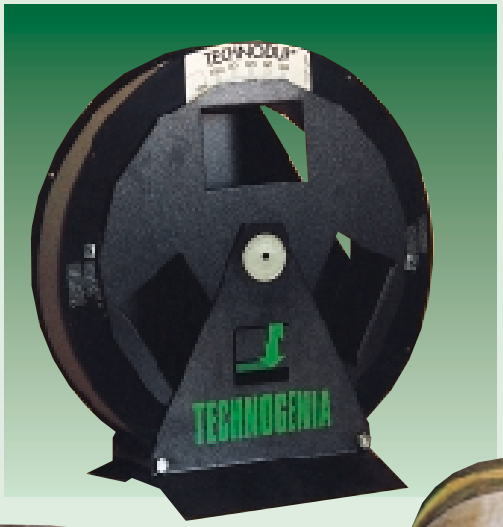
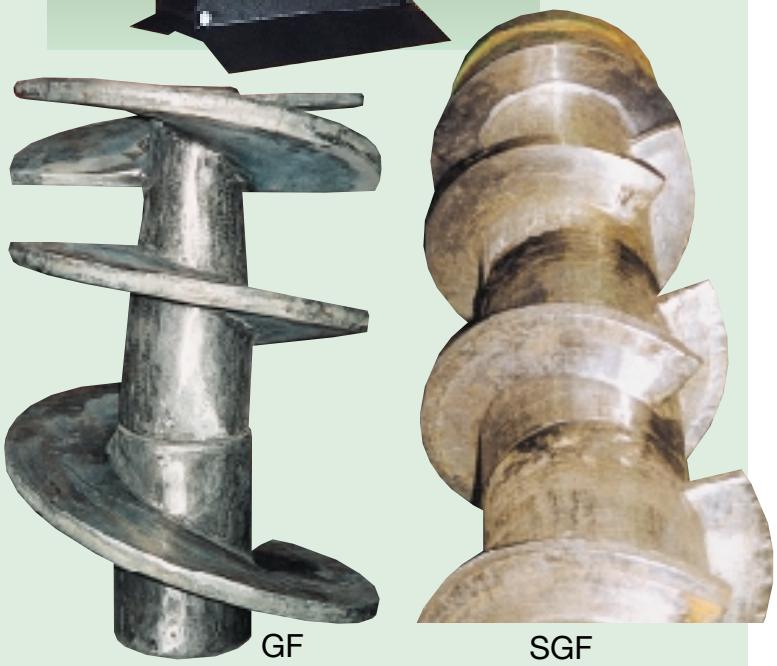
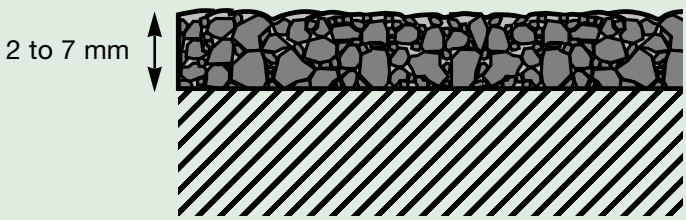
HIGH PERFORMANCE TUNGSTEN-CARBIDE BASED HARDFACING





GF SGF



Hardness of carbides 1800/2200HV

TECHNODUR® GF and SGF

Flexible length on reels for Oxy-acetylene welding
2 to 7 mm thick coatings

Main Application

TECHNODUR®GF :
Press-screw faces in the ceramics industry.
The faces of press-screws are exposed to high abrasion, especially with refractory products. Their surfaces must be well protected whilst being reasonably smooth.
TECHNODUR®GF is a very good answer to these problems.

TECHNODUR®SGF :
Auger faces.
The faces of augers, press screws or mixer screws, in the food processing industry for example, are exposed to high abrasion, and require good wear protection, as provided by TECHNODUR®SGF.
TECHNODUR®SGF can be precision ground.
Exceptional resistance to abrasion, resistance to impacts, ease of repair, absence of craking.

Description

TECHNODUR®GF and TECHNODUR®SGF are a flexible length made of a small diameter nickel core wire with a thick coating. The coating contains a specially formulated matrix of molten tungsten-carbide particles, blended with a high nickel content alloy.

Characteristics and Properties

1° Tungsten-carbides :
The hardfacing coatings are made with a mixture of tungsten-carbide particles of different sizes.
With TECHNODUR®GF, the main dimension of the majority of the particles is 0.25 mm, with a proportion of secondary particles graded to obtain a compound that is as compact as possible.
With TECHNODUR®SGF, the main dimension of the majority of the particles is 0.13 mm, to be very compact with as smooth as possible a surface.

2° Bonding Alloy :
Nickel alloy
Hardness : 40-44 HRC

3° Average Expansion Co-efficient :
6 to 7 10-6 cm/cm/°C (estimated)

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WEAR PROTECTIONS

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4° Coating Density :
13,6 g/cm^3

5° Tungsten-carbide Concentration
The tungsten-carbide concentration depends upon the space left free by the arrangement of tungsten-carbide particles. It is possible to reduce this space by an appropriate grading of tungsten-carbide. In the course of welding the particles are deposited in a relatively compact arrangement. The excess brazing alloy used to prevent oxidisation during welding rises to the surface of the coating, giving it a smooth finish. That is evidence of proper welding and of optimum particle arrangement.

TECHNODUR®GF and TECHNODUR®SGF provide an optimised concentration of approximately :

$$\frac{\text{Carbide Weight}}{\text{Carbide Weight + Alloy}} \times 100 = 66$$

6° Chemical Resistance:
No corrosion has been recorded, even at high temperatures.

Other Typical Applications

- Foundry scrapers
- Rolling-mill roll and roller scrapers
- Brick or roof tile manufacture
- Fan blades, e.g. in cement works
- Augers used in cement works

Application

TECHNODUR®GF is applied with an oxyacetylene torch. We recommend the use of the Techno 2000 torch, which is simple to use and easy to maintain.

For volume applications, the FD 2000 automatic device increases the hourly coating rate by 20% to 30%, with a corresponding reduction in consumption of welding gas.

It is recommended to spray MB 40 powder over the work surface prior to applying TECHNODUR®GF and TECHNODUR®SGF (using the Techno 2000 torch).

The surface to be coated should be ground before hardfacing.

Successive layers of TECHNODUR®GF and TECHNODUR®SGF can easily be welded upon each other.

20 kg coils
Diameters : 4 and 6 mm

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