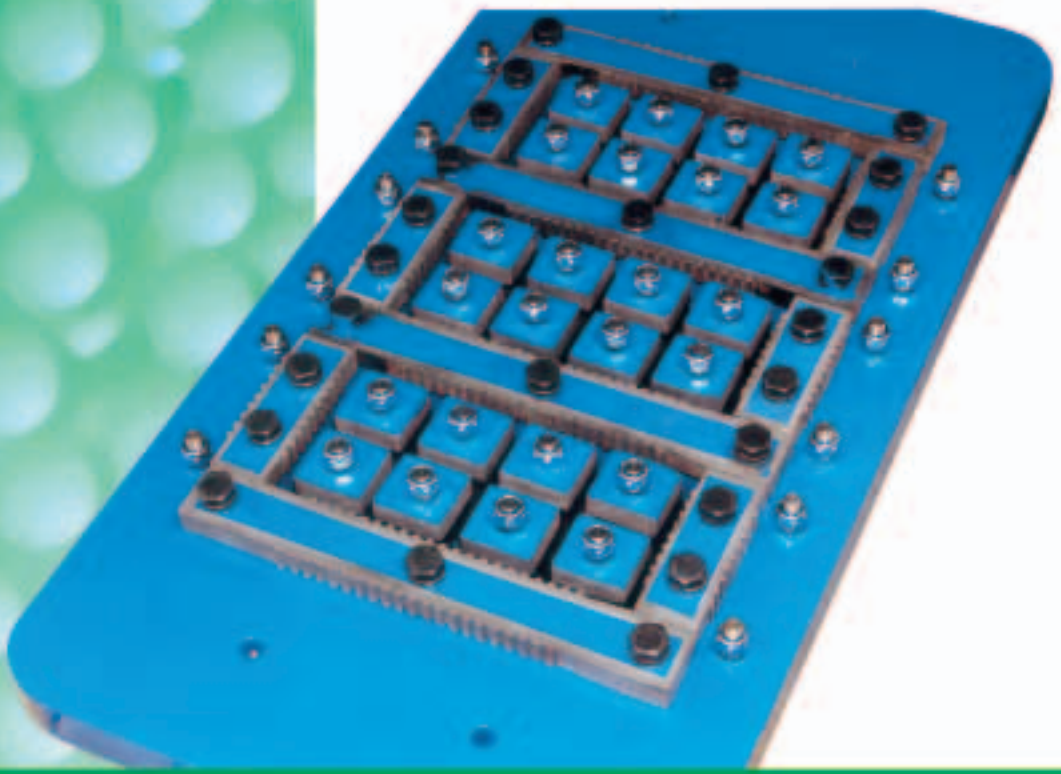
HARD FACING

TECHNOCASTING®

Cladding and production of wear parts of complex shapes

The Technocasting®, process is used for the production of Tungsten Carbide protection and which is impossible to create by the usual techniques of gas welding.



TECHNOGENIA

The limitations of the traditional hardfacing processes

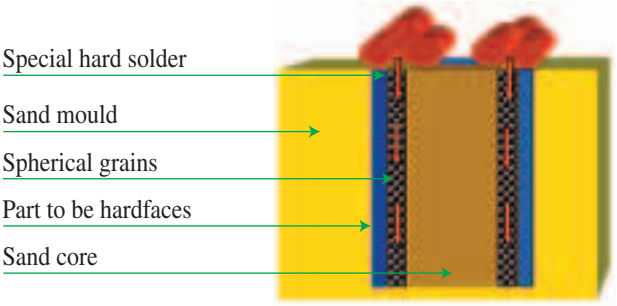
Technocating enables the limitations of the traditional manual welding process to be overcome since manual welding cannot achieve the hardfacing of complex components nor those requiring great accuracy of application. Using Technocasting, it is also possible to make grooves and facings on the insides of tubes.

The TECHNOGENIA Technocasting process

Using this technique, which is closely allied to foundry methods, the infiltration of an alloy of hard solder with a quantity of Tungsten Carbide grains is effected in a mould.

Principle :

Technocasting®: example coating inside of a tube



The coating is composed of a very dense combination of grains of Tungsten Carbide of the Spherotene® type and a special hard solder. During the process, the hard solder melts and infiltrates the Tungsten Carbide grains by capillary action.

Characteristics :

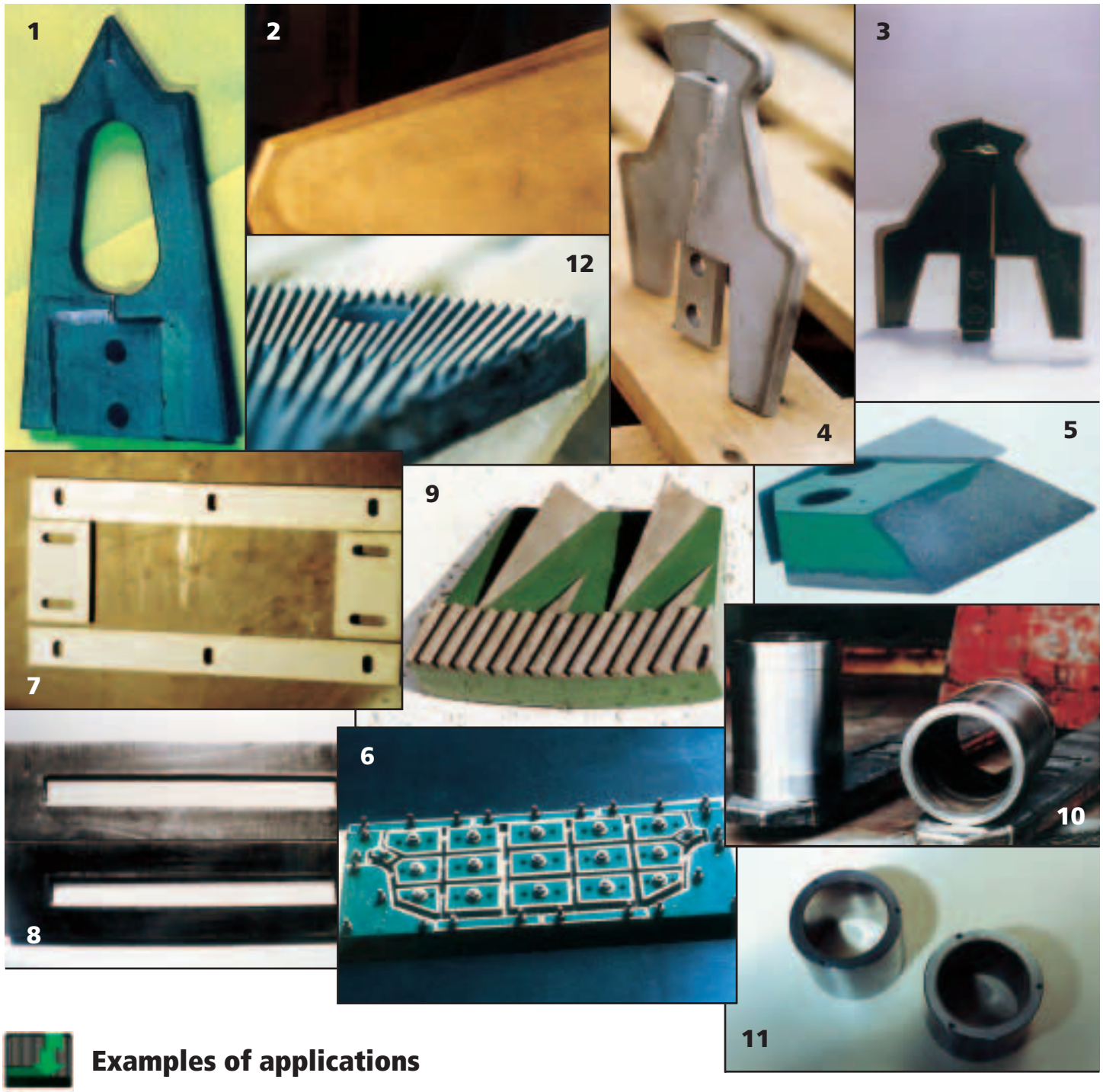
- Thickness of the deposit: form 3 to 10mm (5 mm is the optimum)
- Composition: over 70% of Tungsten Carbide of the Sphérotène® type in a special alloy.
- Carbide hardness: 3000 ± 500 HV
- General tolerance: ± 0.2 mm
- Original roughness: from Ra 3.2 to Ra 6.7
- Maximum Height: 550 mm (please enquire if more is required e.g. sub-assemblies can be made).
- Reaming from 10 to 550 mm

Conclusion

The Technocasting®

- Gives a very regular surface.
- Allows for the protection of creation of complex shapes.
- Provides excellent impact resistance.
- Garantees maximum homogeneity and density, by virtue of the Sphérotènes®.
- Can be levelled.
- Allows for the formation of inner coatings.
- Is suitable for short runs of parts.

Sphérotène® are grains of Tungsten Carbide obtained by a process of cold-crucible fusion. These Tungsten Carbides have incomparable hardness from 3000± 500 HV



Examples of applications

Foundries:

- Mould drills (1,2,3,4)
- Feed heads of complex shapes (5)
- Scrapers / sharp angle

Ceramics Industry:

- Cores and rakes for dies (brick making) (6)
- Dies for tiles (7,8)
- Plates of rotating crushers (9)

Cement Works:

- Casings of screw pumps (10)
- Channels and elbow elements
- Elements of valve actuators

Miscellaneous :

- Radial Bearings / Oil Industry
- Casings / Presses (11)
- Paper Industry (12)

TECHNOGENIA

TECHNOGENIA S.A.
Z.A. des Marais - BP 151
74410 SAINT-JORIOZ - FRANCE
Tél. : +33 (0)4 50 68 56 60
Fax : +33 (0)4 50 68 62 77
E-mail : technogenia@technogenia.fr
Web Site : http://www.technogenia.com

Imprimerie SADAG - 01200 Bellegarde-sur-Valserine - ✆ 04 50 48 25 35 - E-mail : Sadagsa@wanadoo.fr