

Technopowders PTA 211 containing Spherotene®



Since 1986, Technogenia has manufactured cast tungsten carbide grains using a unique patented process: cold crucible fusion by electromagnetic levitation.

This innovative product is marketed under the name of SPHEROTENE®. It is characterized by a very fine metallurgical acicular structure.

SPHEROTENE® is delivered in the form of extremely hard spheres - between 3000HV and 4000 HV (Vickers Hardness).



Because the spheres are produced in an inert environment the oxygen and free carbon levels are low and yield a most weldable surface condition. The spherically shaped particles of Spherotene have the advantage of agglomerating with maximum compactness, thus producing deposits where the mean free path between carbide particles is maintained at a minimum.

This spherical form gives deposits made with Spherotene considerably higher resistance to impact than deposits made using angular shaped particles. Angular carbide grains in a welded deposit that are subjected to a cyclic stress frequently precipitate cracks through the weld matrix that in turn precipitate into the weld substrate. The sharp corners of angular particles are also more easily melted and form hard brittle alloys that further nurture crack formation.



"PTA 211" powder has been specially developed for transferred plasma applications.

SPHEROTENE® is available in grain sizes of 40 to 160 microns, meeting all Technogenia's quality requirements.



Technopowders PTA 211

- **Basic Alloy:** Ni Cr B Si powders: Matrix hardness 40 Rc
- **Composition:** 40% NiCr matrix
60% Spherotene 40 to 160µ.
- **Applications:** with PTA torches
- **Packaging:** 1 kg container

Other compositions and packaging formats are possible on request.

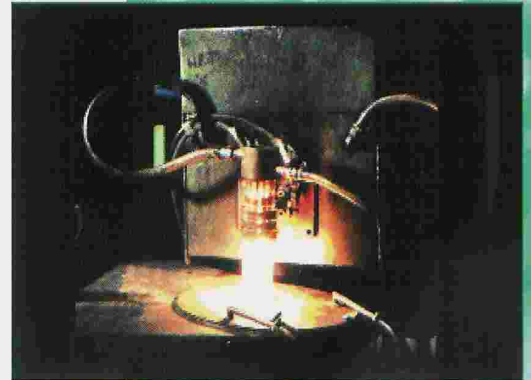
TECHNOGENIA

High performance anti-wear protections



The "Cold Crucible" process:

Melting temperature:
2700°C-2800°C / 4892°F-5072°F.



This patented process gives the tungsten carbide unequalled Hardness up to 3500 HV (HV = Hardness Vickers) and more.

Grain size : 40 μ to 2400 μ .

Very fine metallurgical structure.

**500 X SPHEROTENE® + Knoop indentation
under 1 kg = 2.2 lb. load.**



The spherical shape of the SPHEROTENE® gives them, amongst other advantages, two interesting properties: a better shocks and abrasion resistance.



