GRAPHITE PROPERTIES

Graphite is a material jewellery manufacturers deal with every day, but few of them really know what it is. The success of graphite as a fundamental item for precious metals melting comes from its charachteristics:

- High thermal conductivity
- Good electrical conductivity
- Low thermal expansion resulting in high thermal shock resistance
- Self lubricity
- Low specific gravity
- Strenght at high temperature
- High purity (C content above 99,7%)
- Chemical inertness

GRAPHITE PROPERTIES

CHARACHTERISTICS		BENEFITS
Thermal and electrical conductivity	→	Perfect Conveying for the energy generated by induction and resistance sources, good heating and mixing
Self lubricity	→	Perfect metal flowing
High purity and chemical inertness	→	No metal and alloy contamination. (Eurografite applies in some cases graphites with only 5 ppm impurities).

GRAPHITE PROPERTIES

Other charachteristics are of extremely high importance in relation to the manufacturing of crucibles and dies:

- MACHINABILITY
- WETTABILITY
- RESISTANCE TO TEMPERATURE CHANGE
- THERMAL STABILITY

GRAPHITE PROPERTIES

MACHINABILITY	Graphite is easy to machine. Both edge strenght and abrasion resistance are high. Complicated parts with close tolerances can be manufactured to high precision, applying specific tools made in Tungsten Carbide and in Diamond
WETTABILITY	Graphite is not wetted by molten glass or by most molten metals
RESISTANCE TO TEMPERATURE CHANGE	Graphite is extremely resistant to thermal shock, so rapid heating or cooling is no problem.
THERMAL STABILITY	Graphite does not melt; it sublimes at approximately 3600 C°. In air, graphite is stable up to a temperature of 400-450° C and then it convertes into CO2