



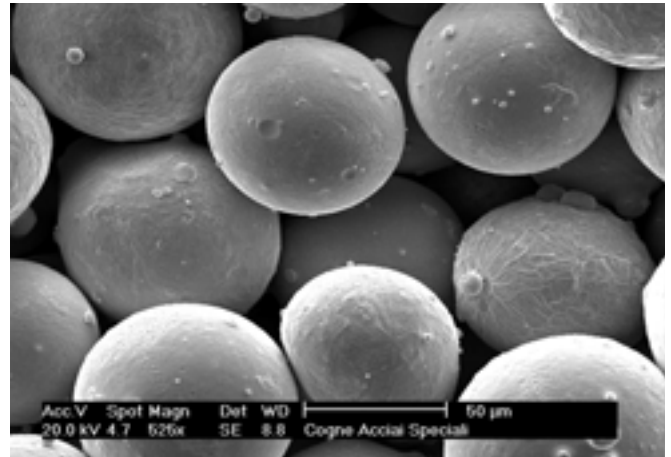
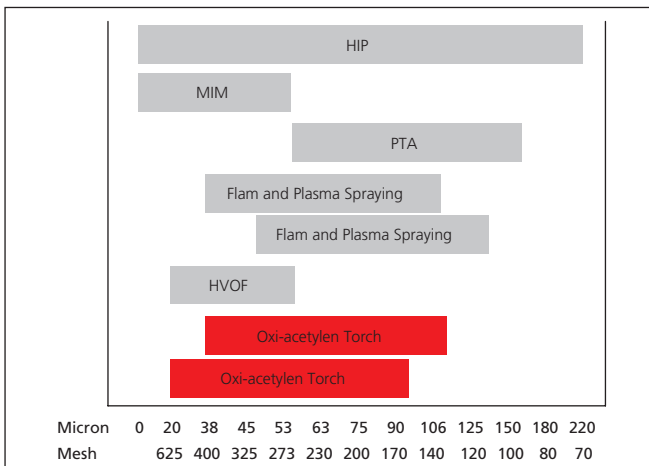
COGNE TECHNOLOGIES

WELDING POWDER

ENGLISH

GAS ATOMISED POWDER

COGNE powder is atomised and cooled in nitrogen inert gas. This process allows COGNE to produce spherical, not oxidised, particles with a homogeneous chemical composition. Powder is sieved using ultrasonic sieving to obtain a precise grain distribution according to the different applications.



La polvere COGNE è atomizzata e raffreddata in atmosfera inerte di azoto. Questo processo permette a COGNE di produrre particelle sferiche con una composizione chimica uniforme e con basso tenore di ossigeno. La polvere è vagliata utilizzando vagli ad ultrasuoni in modo da ottenere una distribuzione granulometrica precisa e adatta a tutte le applicazioni.

Powder welding is traditionally applied using oxi-acetylene torch (simple to use and low cost). The most suitable materials to employ are **NiBSi self-fluxing alloys**.

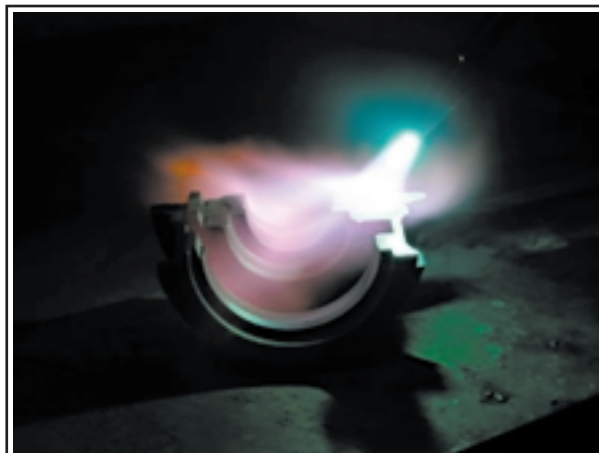
The presence of **B** and **Si** gives good fluidity, reduces the melting point and allows the use at low temperatures (~ 1000°C), obtaining a compact coating, well diluted and strongly bonded to the base material.

NiBSi self-fluxing alloys have good oxidation and wear resistance.

The addition of **Cr** and **Mo** increases corrosion and hot oxidation resistance. The microstructure of the coating consists of a ductile Nickel matrix and hard particles, constituted by several elements.

The alloying elements and their proportional quantity give a wide range of hardness to the **NiBSi self-fluxing alloys**, 18 – 60 HRC.

The coating obtained has a smooth and bright surface that eliminates or drastically reduces the machining operations (hardness coating below 25 HRC).





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Gas atomised Powder

COGNE grade	C	Si	B	Cr	Fe	Ni	Properties	Melting point	Characteristics	Applications
NP20	< 0.2	2.5	1.5	-	<1.0	bal.	18-21 HRC	935°C	Good machinability, can be filed by hand	Repair of cast iron parts in glass industry. Repair of machining errors. Rebuilding of automotive parts.
NP25	< 0.5	2.5	1.7	-	<1.0	bal.	22-28 HRC	915°C		
NI35	0.3	3.5	1.3	6.0	2.0	bal.	30-36 HRC	1020°C	Good wear and hot corrosion resistance. Retain mechanical characteristics at high temperature	Rebuilding and repairing of parts in glass industry. Used for valves, pumps, rolls, etc...
NI40	0.25	3.5	1.6	7.5	2.5	bal.	40-45 HRC	990°C		
NI50	0.45	3.8	2.3	11	2.5	bal.	47-55 HRC	1000°C	High abrasion, wear and corrosion resistance overall at elevated temperatures. Good machinability	For plastic extrusion screws, shafts, etc... Used for valves, pumps, rolls, arms, etc...
NI60	1.0	4.0	3.2	15	4.0	bal.	58-65 HRC	960°C		

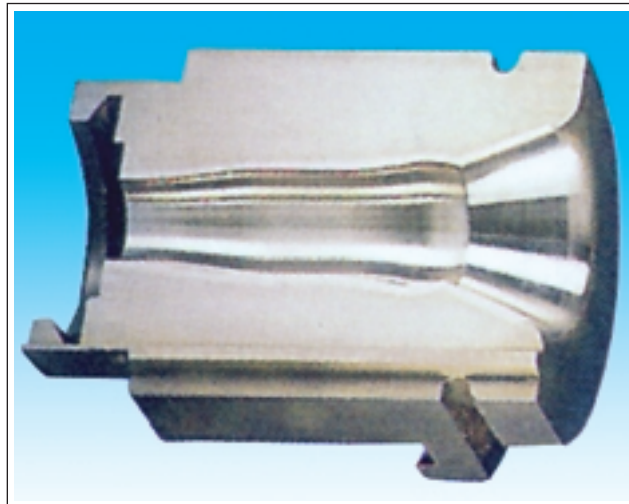
Physical characteristics

Range size (μ) ASTM B214*	Internal range	Apparent density (g/cm ³) ASTM B212	Flow rate (s/50g) ASTM B213
20-90	02	4.8	13.5
38-106	03	4.3	14.8

* We guarantee 3% over and under grain size range

Standard packaging

5 Kg	Bottles
20 Kg	Bottles
200 Kg	Drums



Special chemical analysis or grain distribution are available upon request