

Do you need the ability to melt slags, metals and alloys without fear of contamination or side reactions from electrodes or combustion gases? Is product purity and reproducibility important? Induction melting may be your solution.

Long used in the precious metals industry and for the melting of high end applications like turbine alloys, induction melting uses the electromagnetic properties of the metallic material itself to provide the heating, or a "susceptor" to heat non-conducting materials indirectly.



XPS has successfully developed techniques to produce multiple alloy "pucks" of identical composition for use by owners of emission spectrometers. The possible high degree of reproducibility allows the user to purchase standards with confidence, knowing that 6-sigma quality techniques have been followed in the course of alloy manufacture by XPS to the client-specific specifications.



### Key Capabilities

XPS has a 50 kW induction furnace at your disposal, able to melt alloys with melting points as high as 1600°C or as low as 180°C in a 30kg capacity crucible. Crucible selection is tailored to the specific application to prevent contamination of the alloy, or loss of valuable alloying elements.

A key application of this facility is in the production of Analytical Standard Alloys for calibration of Emission Spectrometers.



Other applications of the XPS facility include melting of oxides using indirect induction, eliminating the risk of reduction from electrode materials. Shielding gases are used to control the gas atmosphere in order to ensure specific mineral phases are produced. Accurate temperature control ensures that measurements of composition and other properties like viscosity can be reliably performed.

Casting techniques designed to minimize phase segregation have been developed to match the melting capability, and ensure accurate and reliable metal accounting.