

Heraeus



**Platinum Labware
for XRF Analysis**

Platinum Labware for XRF Analysis

Heraeus Platinum Labware

Since 1856 Heraeus has offered high quality platinum products backed by a team of experienced chemists and metallurgists. These products include platinum dishes used for the analysis of oil, petrochemicals, flour, sugar, wine and many other applications.

The use of precious metals is still absolutely essential because of their excellent chemical resistance to aggressive media. Precious metals remain stable even at high temperatures.

The Heraeus Promise

The responsibility of our world class products does not end when they are delivered. Experts at Heraeus Platinum Labware will continue to assist you in finding the perfect solution for your sample preparation needs at a level only the manufacturer is able to provide.

Dispersion Hardened (DPH) Alloy

Through a special process, Heraeus has created a Dispersion Hardened (DPH) alloy. The inclusion of finely dispersed zirconia offers an economical way to increase the mechanical strength of the product resulting in longer service times.

Smart Standards – made by Heraeus

The perfect solution for your Platinum Labware needs.

In today's Platinum Labware Market, purchasing decisions are based on a variety of requirements:

- High quality
- Excellent service
- Knowledgeable technical support
- Fast delivery
- Products according to established standards / norms
- Full Service Recycling and Precious Metal Management
- Competitive pricing

One easy answer for all your requirements:

Smart Standards – made by Heraeus

As a leading manufacturer, Heraeus offers a wide range of standardized Platinum Labware directly from stock. Covering all lab applications, Heraeus offers world-class quality at competitive pricing.

Heraeus goes beyond manufacturing to maximize your benefit.



Crucibles and casting dishes for the preparation of samples for X-ray fluorescence (XRF) analysis

XRF is used for routine quality assurance of production in many branches of industry. For example, in the iron and steel, the manufacture of cement, the animal feed and fertiliser, the refractories industry and in all fields of metal processing. Thanks to its high degree of precision, the analysis of samples which have been homogenized by a fusion process is becoming increasingly important.

The excellent stability of platinum – even in the 1100–1200°C temperature range – is further improved by the addition of 5% gold. This alloy has higher strength and, in particular when melting silicates, a low wettability so that the melt can be easily removed from the crucibles and casting dishes.

The inner surface of the casting dishes must be smooth, bright and very flat in order to obtain a microscopically smooth surface on the fused bead. Beam scattering caused by surface effects could lead to false interpretation of the analysis results. Therefore, all our casting dishes undergo a post-treatment and a particularly critical final inspection.

The fusion method is a technique where sample material is prepared for further analysis by XRF (X-Ray Fluorescence Analysis), ICP-MS (Inductively Coupled Plasma - Mass Spectrometry), and AA (Atomic Absorption). Sample material is combined together with a solution inside a PtAu5% crucible and melted into a homogenous mixture. This process is performed manually or in an automatic fusion machine. This method does not involve the heating of a sample to its melting point, but rather the heating of the flux to just beyond its melting point (~1050 °C). At this stage, the oxidized sample material dissolves into the lithium borate flux creating a homogenous mixture. This mixture is then poured into either a PtAu5% casting dish or a beaker containing solution, usually diluted acid.

The mixture that is poured into the PtAu5% casting dish, cools and solidifies into a glass bead, and is then analyzed by XRF. The mixture that is poured into the beaker containing the solution is further analyzed by ICP-MS or AA.

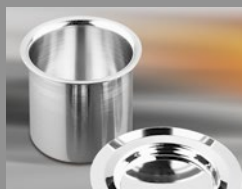
Heraeus Platinum Labware



**Standard
Laboratory Equipment**
Crucibles,
Dishes, Lids



**Special Dishes
and Boats**



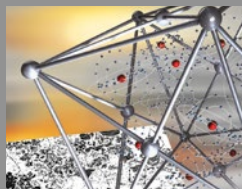
XRF Program



Accessories



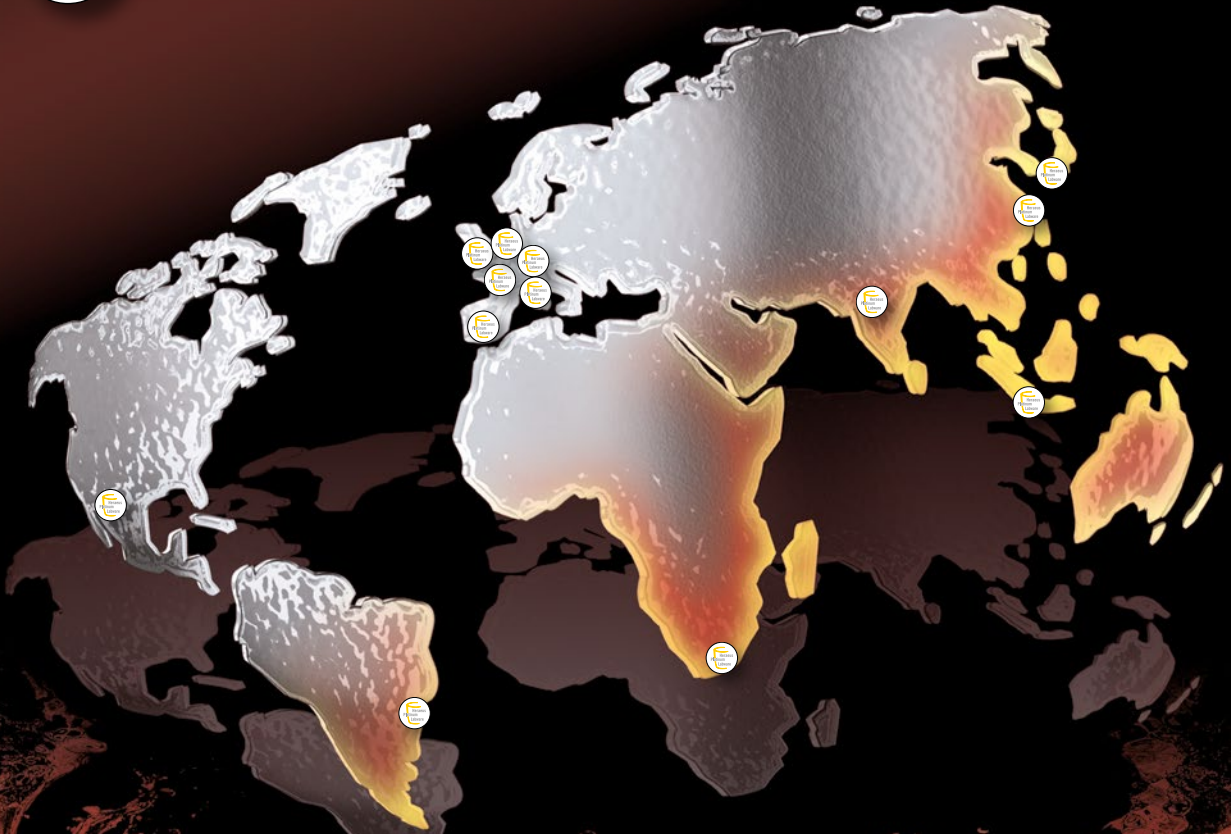
**Precious Metal
Semifinished
Products**



**High Strength
DPH Alloys**



THE LOCAL SUPPLIER WITH A GLOBAL ADVANTAGE



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Don't throw your valuable Precious Metals away!
Call Heraeus today and ask about our Labware
Recycling Program!



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