

XRF Scientific Ltd

Fusion analysis of high nickel sulphide materials and other process materials

Fusion Analysis for 40mm glass bead

1. Align Pt/Au Moulds.
Make sure moulds are in place.
2. Add **7.8000±0.0005g** of fusion flux (LT35:MT65 with 12.8% NaNO₃ added) first and then **0.3300±0.0005g of sample** into a plastic chippette or glass vial mix thoroughly and transfer to Pt/Au crucible.
3. Sinter in a muffle furnace at 700°C for 10 minutes.
4. Place directly into the XRF Scientific fusion machine (FM) and start the fusion process by depressing the green start button for more than one second.

**IMPORTANT: Fusion temperature 1050±10°C.
 Mould temperature 950±10°C.**

Check fusion temperature with about 0.1g of K₂SO₄. It melts at 1060°C.

5. When the fused beads are cool, label, remove and place the glass beads into the XRF spectrometer sample holder. If you wish to do the analysis later put the glass beads into a chippette or plastic bag and place into a desiccator.

Notes: Keep a set of crucible for each material type.
 Keep moulds clean, flat and polished.
 Do not use a halide release agent.

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STANDARD FM CONDITIONS:

These conditions apply to the XRF Scientific Phoenix FM:

Item	Mode	Time	Notes Sec. (S)
1.	PREHEAT	150	Oxidation completion
2.	MELTING	120	Melting/Fusion
3.	SWIRLING	210	Fusion/Mixing
4.	COOLING	330	
Air flow = first stage-strong, second stage-nearly off (from time of release.)			
5.	O ₂ inject	330	when melting cycle starts
6.	MOULD STARTS	90	