Thermo SCIENTIFIC

XRF CALIBRATION SPECIFICATIONS

Instrument: ARL 9900 **Base:** COPPER

	XR-CAL-CU				XR-CAL-CU-06			
El.	General Copper				Brass CuZn using Backerud			
Cu	53.8	-	99.99		55.6	-	95.5	
Ag	0.003	-	0.11			-		
Al	0.003	-	11.41		0.003	-	8	
As	0.004	-	0.23		0.003	-	0.22	
Bi	0.003	-	1.8		0.003	-	0.22	
Cd	0.003	-	1.13			-		
Co	0.0015	-	0.32		0.01	-	0.32	
Cr	0.0015	-	2.11			-		
Fe	0.0015	-	6.7		0.005	-	4.5	
Mn	0.0015	-	5.2		0.002	-	5.4	
Ni	0.0015	-	35.34		0.005	-	6.7	
P	0.002	-	1.01		0.002	-	0.23	
Pb	0.003	-	21.3		0.003	-	4.8	
S	0.0015	-	0.33		0.0015	-	0.14	
Sb	0.002	-	0.36		0.002	-	0.36	
Se	0.0015	-	1.65			-		
Si	0.002	-	5.94		0.002	-	5.94	
Sn	0.003	-	11.5		0.005	-	2.2	
Te	0.003	-	0.06			-		
Zn	0.002	-	46.05		0.2	-	46.1	

Remarks:

Scope of the calibration

A set of prepared Copper reference materials are used to derive calibration curves for analysis

Instrumentation

Spectrometer equipped with Rhodium anode end-window X-ray tube.

The calibration specification is valid for samples of the following sizes: diameter 30 - 50 mm; thickness 2 - 20 mm if small cassettes are ordered, diameter 30-60 mm; thickness 2-40 mm if large cassettes are ordered.

Sample preparation

Sample preparation: Milling (with W carbide Tools).

If a different sample preparation method is wanted, it must be specified in writing when submitting analytical ranges.

A Specialty request number will be issued by the Product manager.

Procedure

The analysis time ranges from 10 to 40 seconds depending on the element and precision required. Calibration curves are established using the Multi- Variable-Regression program incorporated in the OXSAS package. Fundamental parameters are used extensively for matrix corrections.

Concentration ranges

Extension of calibration for other elements and/or concentration ranges can be made subject to availability of standard samples.

Upon special request, calibration range extension can be also made with well characterized standards supplied by the customer.

The price of such extension is determined by the number of elements and the number of additional standard samples supplied.

All elements greater than 1% concentration in the sample must be included in the analytical program in order to calculate interference corrections.

Setting-up samples

This calibration includes setting-up-samples for maintenance of calibration curves over time.

If calibration of more than one quality is ordered, then only one piece of each setting up sample (S.U.S) will be delivered. Supplementary sets of S.U.S. are available at additional charge.

Note

No certified standard sample is delivered with the calibration.

The calibration range is defined by :

- the concentration of the lowest available CRM or three times the guaranteed detection limit if the latter is higher

- the concentration of the highest available CRM + an extrapolation of up to 15 %