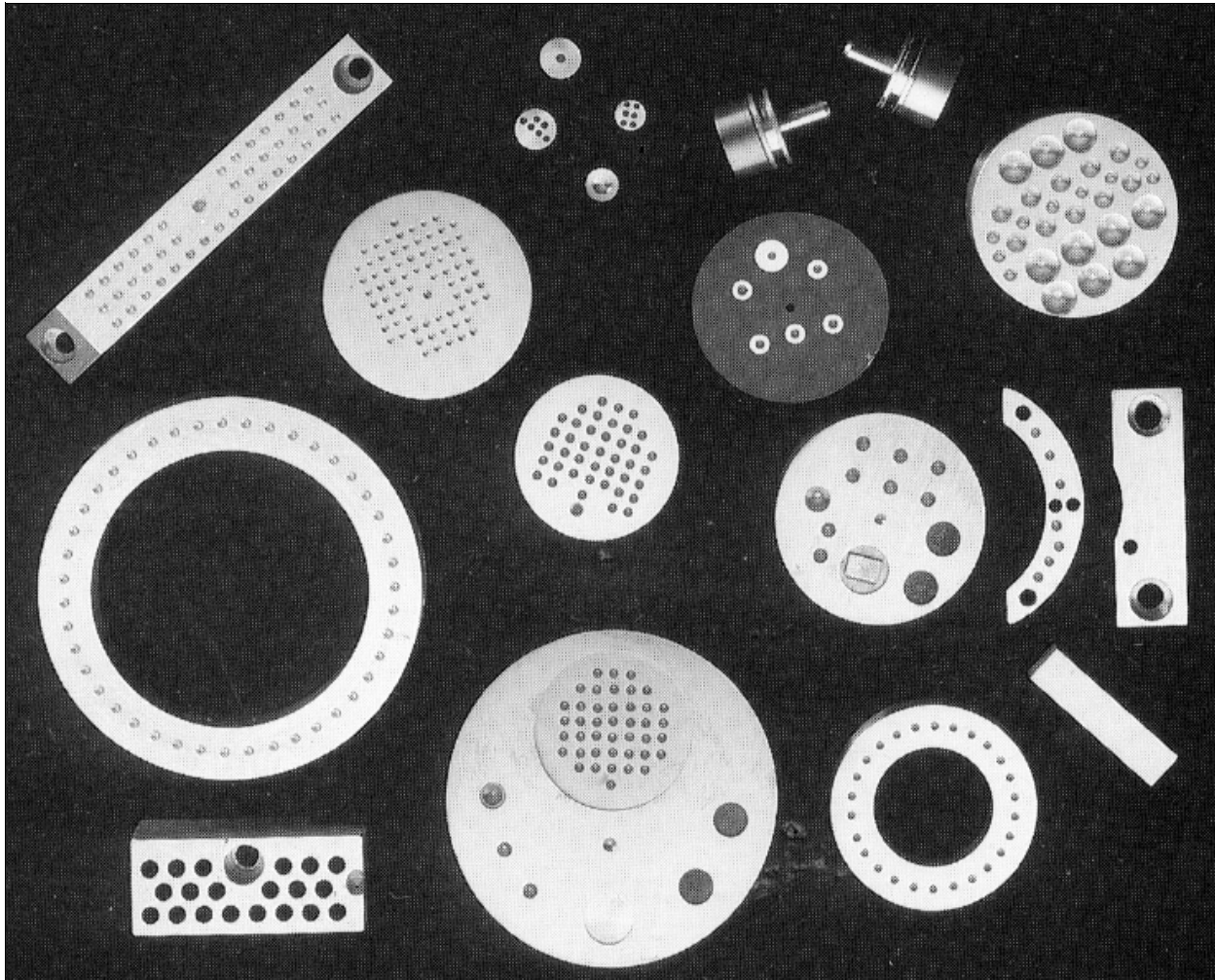


X-ray Reference Standards for S E M

Micro Analysis Consultants Range



Examples from the Range of Standard Holders Available

We can supply standards from **Micro Analysis Consultants** that are suitable for electron beam Energy Dispersive or Wavelength Dispersive X-ray microanalysis systems. Only high quality reference samples are used for fitting into the brass blanks (or aluminium, stainless steel or carbon resin to order) after diamond polishing to a $0.25\mu\text{m}$ finish. They are then carbon coated.

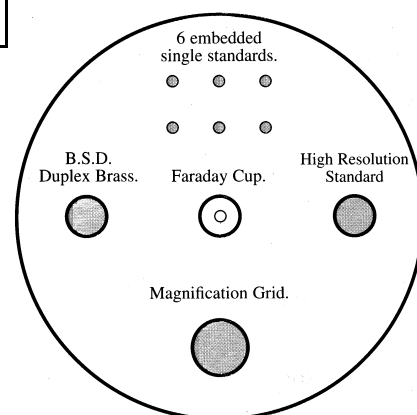
All samples are supplied with a certificate of analysis and many standards are traceable to a national institution. Each block of standards has its own unique number and comes with a map for standard identification. A Faraday cage for accurate specimen current measurements is standard on some blocks and available as an option on others. Carousels, 13mm \varnothing blocks to fit pin stubs and singles of 5mm, 3mm and 2mm are also available.

SEM Calibration Block

This block of standards is used to calibrate, set up and check most of the functions of an SEM with optional Energy-Dispersive X-ray analysis, Specimen Current and Backscattered Electron Detector.

4 styles available in 32mm x 8mm brass block
1 version available in 50mm x 8mm brass block

S613 SEM calibration block each



Backscattered Electron Detector Calibration Standard

30mm x 5mm Carbon Block. Checks Detector and SEM performance with certified standards for system calibration.

Contains:

Standards to check 1 Atomic number resolution
Faraday cage to set probe current
Duplex brass to check 0.1 Atomic number resolution

S614 Backscattered ED calibration standard each

Also available 5mm x 5mm single standards containing 2 elements:

S615/1 Platinum/Gold (Atomic numbers 78/79) each

S615/2 Palladium/Silver (Atomic numbers 46/47) each

S615/3 Nickel/Silver (Atomic numbers 28/29) each

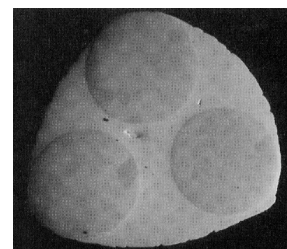
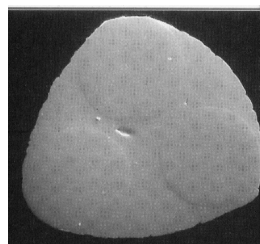
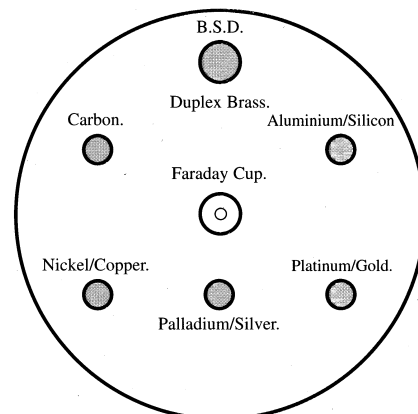
S615/4 Aluminium/Silicon (Atomic numbers 13/14) each

S615/6 Copper/Nickel each

5mm x 5mm single standard containing:

S615/5 Duplex brass (0.1Z Mean atomic number between phases)

Other block combinations available - please ask



Standard Sets

Biological Block

BN	Al	CaCO ₃	FeS ₂	BaSO ₄
C	SiO ₂	CaCO ₄	Se	B1
NaCl	KCl	Ti	InP	Faraday
MgO	KBr	V	BaF ₂	Cup

S244 25mm Ø Biological block with Faraday Cage

S245 32mm Ø Biological block with Faraday Cage

Semiconductor Block

B	Si	CuS ₂	Ge	InSb
C	CaF ₂	ZnS	Ag ₂ S	HgTe
Mg ₂ Sn	FeSi ₂	GaP	CdS	PbTe
Al ₂ SiO ₃	Fe ₂ S ₂	GaAs	InP	Bi ₂ Se ₃
		Bi ₂ Te ₃		

S248 25mm Ø Semiconductor standards set

S249 32mm Ø Semiconductor standards set

42 Standard Universal Block

Jade	Fe	SrF ₂	InAs	Ir
MgO	FeS ₂	Y	Sn	Pt
Al ₂ O ₃	Co	Zr	Sb	Au
Ortho	Ni	Nb	BaF ₂	HgTe
Wollas	Cu	Mo	LaB ₆	PbTe
Ti	Zn	Rh	CeAl ₂	Bi
V	GaP	Pd	Hf	
Cr	Ge	Ag	Ta	
Mn	Se	Cd	W	

S242 Universal block 25mm Ø

S243 Universal block 32mm Ø

Rare Earth (REE-glass)

Y,Pr,Dy,Er
Ce,Eu,Ho,TM
All 15

La,Sm,Gd,Yb
Nd,Tb,Lu
Glass Blank

S353 Rare earth (REE-glass) block 25mm Ø

Rare Earth Block

LaB ₆	NdF ₃	TbF ₃	ErF ₃
LaF ₃	SmF ₃	TbSi ₂	Tm
CeAl ₂	EuF ₃	DyF ₃	TmSi ₂
PrF ₃	GdF ₃	HoF ₃	YbF ₃
	LuF ₃	LuSi ₂	

S246 Rare earth block 25mm Ø

S247 Rare earth block 32mm Ø

45 Standard + FC Universal Block

B	V	GaP	Pd	Hf
BN	Cr	Ge	Ag	Ta
C	Mn	Se	Cd	W
Jade	Fe	SrF ₂	InAs	Ir
MgO	FeS ₂	Y	Sn	Pt
Al ₂ O ₃	Co	Zr	Sb	Au
Ortho	Ni	Nb	BaF ₂	HgTe
Wollas	Cu	Mo	LaB ₆	PbTe
Ti	Zn	Rh	CeAl ₃	Bi

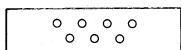
S354 45 Standard + FC universal block 25mm Ø

S355 45 Standard + FC universal block 32mm Ø

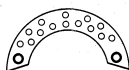
Special Holders for EMs



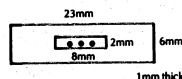
S250 for JSM 35



S251 for JEM 100CX



S252 for JXA 733



S253 for Jeol Temscan

These holders are *specials* and are hand polished. Pricing is **per holder** and not the number of specimens in the holder. A holder containing *10 standards* in a 21 standard holder is the *same price as the holder with 21 standards*.

S250 JSM 35 standard block containing 21 standards

S251 JEM 100CX STEM block containing 7 standards

S252 JXA 733 standard holder containing 12 standards

S253 JEOL Temscan bulk holder containing 3 standards

Others available to special order

Transmission Standards

Thin Foil

A comprehensive range of high purity metal foils 3mm x 0.1mm Ø to fit into TEM grid holders for use in STEM mode. They are polished to a 3 µm finish.

Al	Hf	Ni	Ag	V
Cd	In	Nb	Ta	Y
Co	Fe	Pd	Sn	Zn
Cu	Mg	Pt	Ti	Zr
Au	Mo	Rh	W	316

S254 Thin foil standard set

Thin Film

A range of thin film microanalysis standards for calibrating energy-dispersive detectors for thin film microanalysis. These come on 3mm Ø copper (or user choice) grids or holey carbon films for TEMs.

Universal Thin Film Sets

Ag ₂ Te ₃	CaWO ₄	GaAs	KAlSi ₃ O ₈	K453
BaSO ₄	CdTe	Gd ₃ Ga ₅ O ₁₂	LaB ₆	SrTiO ₃
Be ₂ Al ₂ Si ₆ O ₁₈	CeAl ₂	HgTe	Li ₇ Ta ₂ O ₆	TiBr
Bi ₂ Se ₃	Cu ₂ S	InP	(Mg,Fe) ₂ SiO ₄	ZnS
CaMoO ₄	FeCr ₂ O ₃	InSb	Na ₃ AlF ₆	ZrSiO ₄

S255 Universal thin film set on 3mm grid

Rare Earth Thin Film Set

CeAl ₂	HoF ₃	SmF ₃	DyF ₃	LaF ₃	TbF ₃	ErF ₃
LuF ₃	TmF ₃	EuF ₃	NdF ₃	YbF ₃	GdF ₃	PrF ₃

S256 Rare earth thin film set on 3mm grid

Compound and Pure Standards

Compound standards are available from Augite (Ca,Mg,Fe)₂(SiAl)₂O₆ to Zircon ZrSiO₄.

Pure standards are available from Ag (silver) to Zr (Zirconium)
Please ask for quotation.

MBH/NIST/NBS/BAS Material

A range of materials to the above standards is available including stainless steels, brass, gold/copper wires, phosphor bronze etc., etc.

Please ask for list