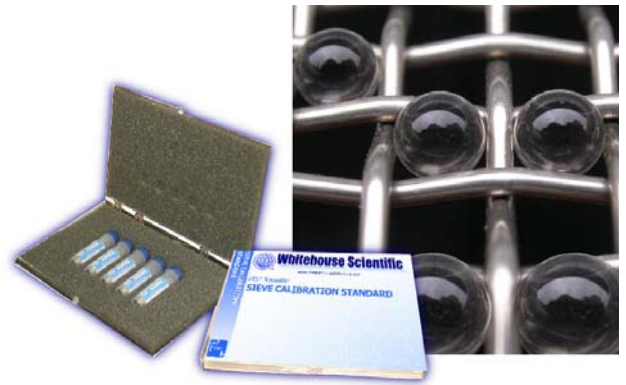


NIST TRACEABLE SIEVE STANDARDS

- Unique microsphere method of sieve calibration
- Applicable to all sieves from 20 - 3350µm
- Mean aperture sizes traceable to NIST and NPL
- Measure over 1 million apertures per minute
- Typical calibration time of about 1 minute
- Method analyses over 80% of the sieve surface
- Accuracies and repeatabilities better than 1µm
- Results independent of sieve shaking method
- Single-shot bottles remove operator bias
- No need to send sieves away for calibration



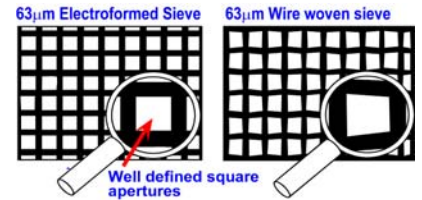
Price List

January 2009

For Sieve Size (µm)	Mesh #	Wt. Per bottle	Catalogue Number	Price Per 5 Bottle Set		
				£	€	\$
20	635	0.8 g	SS391	96.50	116	154
25	500	0.8 g	SS392	88.50	106	142
32	450	1.0 g	SS393	82.00	98	131
36, 38, 40	400	1.0 g	SS394	82.00	98	131
45, 50	325	1.0 g	SS395	78.50	94	126
53, 56	270	1.0 g	SS396	78.50	94	126
63	230	1.0 g	SS397	77.50	93	124
71, 75, 80	200	1.0 g	SS398	76.50	92	122
90	170	1.0 g	SS399	76.50	92	122
100, 106, 112	140	1.0 g	SS400	76.50	92	122
125	120	1.0 g	SS401	76.50	92	122
140, 150, 160	100	1.5 g	SS402	76.50	92	122
180	80	1.5 g	SS403	76.50	92	122
200, 212, 224	70	1.5 g	SS404	76.50	92	122
250, 280	60	2.5 g	SS405	72.00	86	115
300, 315	50	2.5 g	SS406	72.00	86	115
355	45	2.5 g	SS407	72.00	86	115
400, 425, 450	40	2.5 g	SS408	72.00	86	115
500	35	2.5 g	SS409	72.00	86	115
560, 600, 630	30	2.5 g	SS410	72.00	86	115
710	25	2.5 g	SS411	72.00	86	115
800, 850, 900	20	2.5 g	SS412	72.00	86	115
1000	18	7.0 g	SS413	92.00	110	147
1120, 1180, 1250	16	10.0 g	SS414	110.50	133	177
1400, 1550	14	15.0 g	SS415	125.00	150	200
1700, 1800	12	15.0 g	SS416	125.00	150	200
2000	10	20.0 g	SS417	128.50	155	206
2240, 2360, 2500	8	20.0 g	SS418	128.50	155	206
2800, 3150	7	25.0 g	SS419	155.00	186	248
3350, 3550	6	25.0 g	SS420	155.00	186	248

Microsphere certification

Individual sieve calibration standards have been produced for every sieve manufactured between 20 and 3350µm. The particle size distribution of the microspheres is designed to peak at the sieve in question and fall one sieve size either side in the ISO or ASTM series. Thus, for the 63µm standard, the size distribution is between 53µm and 75µm. Having constructed the size distributions, the microspheres are initially certified by high precision Electroformed sieves calibrated against NIST and NPL standards.

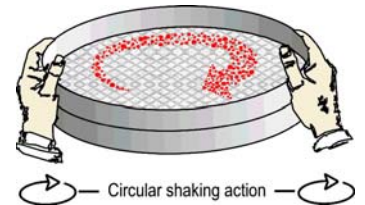


Electroformed sieves are exceptionally uniform and apertures rarely vary by more than 1µm. Because the size distributions are so narrow, only 3 electroformed sieves can be used for analysis. To ensure that the distributions are uniform and can be interpolated with confidence, the sieving data is supported by optical microscopy. The certificate calibration graph can then be drawn.

The Precision Electroformed Sieves

A simple but high precision method

- Empty the complete contents of a bottle of the appropriate standard onto the sieve and shake evenly over the surface for 1 minute.
- Calculate the percentage passing and read off the mean aperture size from the calibration graph.



Detailed methodology

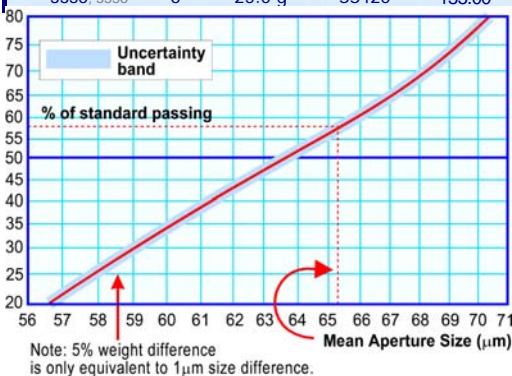
a) For 200mm diameter sieves down to 45µm.

Assemble the sieve to be calibrated and the collecting pan on a balance accurate to 0.01g and tare. Add a complete bottle of the appropriate calibration standard and record the actual weight of the standard. Now shake on the pan with a large swirling action for 1 minute, then tap the frame a few times to detach near mesh particles. Without changing the tare on the balance, remove the undersize microspheres that have fallen through and reweigh the sieve assembly with the retained microspheres. From the percentage retained, calculate the percentage of the standard passing and read off the mean aperture size from the calibration graph supplied with the Test Certificate.

b) For Air Jet and Sonic sieving down to 20µm.

Air Jet sieve, set vacuum to 2000 - 2200Pa and run for 3 minutes (mins.)

Gilsonic Autosiever, amplitude 20, run-time 3 mins. with ramp up and ramp down of 0.1 mins.



Note. Because of the spherical nature of the standards there is no speed or efficiency advantage in mechanical shaking above a sieve size of about 45µm. All methods give the same results.