IRISH STANDARD SPECIFICATION

TEST SIEVES

I.S. 24:1973

Price £1

INSTITUTE FOR INDUSTRIAL RESEARCH AND STANDARDS
Ballymun Road, Dublin 9.
Telegrams: Research, Dublin Telephone: 370101

DECLARATION

OF

SPECIFICATION

ENTITLED

TEST SIEVES

AS

THE IRISH STANDARD SPECIFICATION FOR TEST SIEVES

The Institute for Industrial Research and Standards in exercise of the power conferred by section 20 of the Industrial Research and Standards Act, 1961 (No. 20 of 1961), and with the consent of the Minister for Industry and Commerce, hereby declares as follows:

1. This instrument may be cited as the Standard Specification (Test Sieves) Declaration, 1973.

2. (1) The specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Test Sieves.

(2) The said standard specification may be cited as Irish Standard 24:1973 or as I.S. 24:1973.

3. The Standard Specification (Test Sieves) Order, 1950 (S.I. 293 of 1950) is hereby revoked.

SCHEDULE

Test Sieves

PART I INTRODUCTION

1. General

1.1 *Scope.* This specification covers the requirements of test sieves for determining, by sieve analysis, the size and distribution of particles in a granular material, in which the particle sizes range from [redacted] millimetres (mm) to 38 micrometres (μm). 125

1.1.2 *Definitions.* This specification adopts the following definitions:—

(1) *Test sieve:* a sieve conforming to this standard in construction and use.

(2) *Nest of test sieves:* a set of test sieves, which may be assembled together with a cover and receiver.

(3) *Cover:* a lid which is a neat fit to a sieve and prevents the escape of material being sieved.

(4) *Receiver:* a pan which neatly fits beneath a sieve and receives the whole of the passing fraction.

(5) *Sieving medium:* a perforated material having a pattern of regularly shaped apertures of regular size.

(6) *Wire cloth:* a sieving medium of woven wires.

(7) *Wire diameter:* diameter of wire in the wire cloth.

(8) *Warp:* all wires running lengthwise of the cloth as woven.

(9) *Weft:* all wires running crosswise of the cloth as woven.

(10) *Perforated plate:* a sieving medium of plate.

(11) *Margin:* distance between the outside edges of the outside rows of holes and the edges of the perforated plate.

(12) *Plate thickness:* thickness of plate after perforation.

(13) *Aperture size:* the nominal central separation of opposite sides of a square aperture or the nominal diameter of a circular aperture.

(14) *Bridge width:* the pitch minus the aperture size in perforated plate.

(15) *Pitch:* the distance between corresponding points of two adjacent holes in a perforated plate.

PART II APERTURE SIZES AND TOLERANCES

2. DESIGNATION

2.1 *General.* Test sieves shall be designated by the nominal aperture size shown in Tables 1 and 2. Table 1 designates the apertures sizes and tolerances on aperture size for woven wire sieving media. Table 2 designates the aperture sizes and tolerances on aperture size for perforated plate sieving media.

2.1.1 *Tolerances.* Two levels of tolerance are given and the derivation of these is as noted in Appendix E.

(Note: Full tolerance should be adopted for preference. Close tolerances should be chosen only when the specification for the product or test procedure justifies the increased precision of aperture).

TABLE 1. WOVEN WIRE IN TEST SIEVES

a. Apertures in the range 16 mm to 355 μm

1	2	3	4	5
		Tolerances		
Nominal aperture size	Preferred average wire diameter in test sieve	Maximum tolerance for size of an individual aperture +X	Tolerance for average aperture size ±Y	Intermediate tolerance +Z
mm	mm	mm	mm	mm
16·0	3·15	1·12	0·48	0·80
13·2	2·80	0·92	0·40	0·66
11·2	2·50	0·78	0·34	0·56
9·50	2·24	0·67	0·29	0·48
8·00	2·00	0·64	0·24	0·44
6·70	1·80	0·57	0·20	0·39
5·60	1·60	0·50	0·17	0·34
4·75	1·60	0·43	0·14	0·29
4·00	1·40	0·40	0·12	0·26
3·35	1·25	0·34	0·10	0·22
2·80	1·12	0·31	0·084	0·20
2·36	1·00	0·26	0·071	0·17
2·00	0·90	0·24	0·060	0·15
1·70	0·80	0·20	0·051	0·13
1·40	0·71	0·18	0·042	0·11
1·18	0·63	0·17	0·035	0·10
1·00	0·56	0·15	0·030	0·09
μm	μm	μm	μm	μm
850	500	130	26	78
710	450	110	28	69
600	400	100	24	62
500	315	90	20	55
425	280	80	17	49
355	224	71	14	43

b. Apertures in the range 300 μm to 38 μm

Nominal aperture size	Preferred average wire diameter in test sieve	Full tolerances			Close tolerances		
		+X	±Y	+Z	+X	±Y	+Z
μm	μm	μm	μm	μm	μm	μm	μm
300	200	64	15	40	63	12	38
250	160	58	13	36	55	10	33
212	140	53	12	33	47	10	28
180	125	51	11	31	44	9·0	27
150	112	48	9·4	29	39	8	28
125	90	46	8·1	27	36	6	21
106	71	43	7·4	25	33	5	19
90	63	43	6·6	25	30	5	17
75	50	41	6·1	24	27	4	16
63	45	41	5·3	23	25	3	14
53	36	38	4·8	21	23	3	13
45	32	38	4·8	21	22	3	13
38	30	36	4·0	20	20	2	11

Note 1: For sieving areas and aperture tolerances expressed as percentages, see Appendix A.

Note 2: Approximate equivalents in imperial sizes are noted in Appendix D.

2.2 *Tolerance range.* In the case of woven wire test sieves, the aperture sizes shall be in accordance with Table 1 and within the range of tolerances X, Y and Z of that Table.

2.2.1 No individual aperture size shall exceed the nominal value by more than the tolerance X.

2.2.2 The average aperture size shall not be greater or smaller than the nominal value by more than the tolerance Y.

2.2.3 Not more than 6% of the apertures shall be above nominal size by more than the tolerance Z.

2.3 In the case of perforated plate, each aperture size of an unused sieve shall comply with its nominal size within the limits of tolerances shown in Table 2. For full tolerance sieves, see Column 7; for close tolerance sieves, see Column 8.