INTERNATIONAL STANDARD ISO 2194

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Wire screens and plate screens for industrial purposes – Nominal sizes of apertures

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2194 was drawn up by Technical Committee ISO/TC 24, *Sieves, sieving and other sizing methods.*

It was approved in July 1971 by the Member Bodies of the following countries :

Australia	India	South Africa, Rep. of
Belgium	Ireland	Switzerland
Canada	Italy	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	U.S.A.
Germany	Romania	U.S.S.R.

The Member Body of the following country expressed disapproval of the document on technical grounds :

France

Printed in Switzerland

Wire screens and plate screens for industrial purposes – Nominal sizes of apertures

1 SCOPE AND FIELD OF APPLICATION

This International Standard gives the nominal sizes of apertures for wire screens and plate screens for industrial purposes.

NOTE – This document represents only a first step; the diameters and tolerances of the wires will be the subject of a further International Standard.

2 REFERENCES

ISO/R 3, *Preferred numbers – Series of preferred numbers.*

ISO/R 497, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers.*

3 TYPE OF SIEVING MEDIA IN SCREENS

3.1 Wire screens consist of plain or stranded wires or synthetic monofilaments (or multifilaments assembled as monofilaments) crossing to form the openings (such as woven wire cloth, precrimped wire mesh and cloth, welded mesh).

3.2 Perforated plate screens are sheets of metal or synthetic material with openings made by punching or by any other method.

4 DESIGNATION

4.1 Wire screens are designated according to nominal size of aperture, wire diameter, the material and the type of weave.

4.2 Plate screens are designated according to nominal size of aperture, the material and the plate thickness; the type of hole (square, round or any other form) shall be stated.

4.3 Sizes for apertures below 1 mm are expressed in micrometres (μm)[1]; sizes for apertures of 1 mm and above, in millimetres (mm).

1) 1 000 micrometres (μm) = 1 mm

5 NOMINAL SIZES OF APERTURES

Three series of nominal sizes of apertures are given in the following table.

The sizes given in the first column (R 10) should preferably be chosen; otherwise, sizes from the second column (R 20) and, if necessary, from the third column (R 40) can be chosen.

Nominal sizes of apertures		
R 10	R 20	R 40
mm	mm	mm
125	125	125
		118
	112	112
		106
100	100	100
		95
	90	90
		85
80	80	80
		75
	71	71
		67
63	63	63
		60
	56	56
		53
50	50	50
		47.5
	45	45
		42.5
40	40	40
		37.5
	35.5	35.5
		33.5
31.5	31.5	31.5
		30
	28	28
		26.5
25	25	25
		23.6
	22.4	22.4
		21.2

Nominal sizes of apertures		
R 10	R 20	R 40
mm	mm	mm
20	20	20
		19
	18	18
		17
16	16	16
		15
	14	14
		13.2
12.5	12.5	12.5
		11.8
	11.2	11.2
		10.6
10	10	10
		9.5
	9	9
		8.5
8	8	8
		7.5
	7.1	7.1
		6.7
6.3	6.3	6.3
		6
	5.6	5.6
		5.3
5	5	5
		4.75
	4.5	4.5
		4.25
4	4	4
		3.75
	3.55	3.55
		3.35
3.15	3.15	3.15
		3
	2.8	2.8
		2.65
2.5	2.5	2.5
		2.36
	2.24	2.24
		2.12
2	2	2
		1.9
	1.8	1.8
		1.7
1.6	1.6	1.6
		1.5
	1.4	1.4
		1.32
1.25	1.25	1.25
		1.18
	1.12	1.12
		1.06
1	1	1

Nominal sizes of apertures		
R 10	R 20	R 40
μm	μm	μm
		950
	900	900
		850
800	800	800
		750
	710	710
		670
630	630	630
		600
	560	560
		530
500	500	500
		475
	450	450
		425
400	400	400
		375
	355	355
		335
315	315	315
		300
	280	280
		265
250	250	250
		236
	224	224
		212
200	200	200
		190
	180	180
		170
160	160	160
		150
	140	140
		132
125	125	125
		118
	112	112
		106
100	100	100
		95
	90	90
		85
80	80	80
		75
	71	71
		67
63	63	63
		60
	56	56
		53
50	50	50
		48[1]
	45	45
		42[1]

1) From the R'40 series of rounded values given in ISO/R 497.

Nominal sizes of apertures		
R'10	R'20	R'40
μm	μm	μm
40	40	40
		38
	36	36
		34
32	32	32
		30
	28	28
		26
25	25	25
		24
	22	22
		21
20	20	20

NOTE – The proposed apertures are taken from the R 10, R 20 and R 40 series of preferred numbers given in ISO/R 3 and from the R'10, R'20 and R'40 series of rounded values of preferred numbers given in ISO/R 497, respectively.

Preferred numbers are graded in geometric progression. Each aperture in each of the series (R 10 – R 20 – R 40) is a certain constant percentage larger than the preceding aperture of the same series.

Size series	Step	Ratio
R 10 (first choice)	about 25 %	1.25
R 20 (second choice)	about 12 %	1.12
R 40 (if needed)	about 6 %	1.06