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CEYLON STANDARD 110 : 1971

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CEYLON STANDARD SPECIFICATION FOR THICKNESSES OF SHEETS AND DIAMETERS OF WIRES

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BUREAU OF CEYLON STANDARDS

CEYLON STANDARD SPECIFICATION FOR THICKNESSES OF SHEETS AND DIAMETERS OF WIRES

C.S. 110 : 1971

Gr.3

BUREAU OF CEYLON STANDARDS
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Ceylon Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

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CEYLON STANDARD SPECIFICATION FOR THICKNESSES OF SHEETS AND DIAMETERS OF WIRES

FOREWORD

This Ceylon Standard Specification for Thicknesses of Sheets and Diameters of Wires is an adoption of the ISO Recommendation R 388. The suitability of the sizes for local requirements was discussed by the Drafting Committee on Thicknesses of Sheets and Diameters of Wires and was approved by the Mechanical Engineering Divisional Committee. It was authorised for adoption and publication by the Council of the Bureau on 1971-10-27.

The designation of thicknesses of sheet and diameters' of wire by arbitrary gauge numbers has long been recognised as presenting difficulties because of the multiplicity of gauge systems currently in use, and because the significance of gauge numbers may, in fact, vary from industry to industry and from Country to Country.

The purpose of this specification is to provide a basic set of sizes (in millimetres) for thicknesses of sheet and diameters of wire, to replace existing gauge systems. The nominal size of a sheet thickness or a wire diameter is the basic size as given in tabulation.

It is contemplated that, where a specification for sheet or wire lays down standard thicknesses or diameters, the sizes given should be a selection from the series of basic sizes given in this specification, such selection taking account of the thicknesses or diameters appropriate to the product in question and of the extent of size differentiation appropriate to its manufacture and application.

The series for the basic thickness of sheet and diameters of wire has been established on the series of preferred numbers set out in ISO Recommendation R 3—Preferred numbers.

In order to assist those who have been used to the inch system in choosing the correct metric sheet or metric wire, tables have been provided in the Appendices giving the S.W.G. and B.G. numbers together with their inch sizes and metric equivalents.

1. RANGE

The range of sizes is from 0.020 to 25 mm.

2. SELECTION

In selecting sizes, preference should be given to sizes in the R 10, R 20 and R 40 series in that order. In particular, the use of the R 40 series should be avoided except where application requires fine differentiation of sizes.

3. DESIGNATION

The method of designating the thicknesses of sheet or diameter of wire is to be by stating the basic size in millimetres followed, if desired, by the letter U to indicate that this size belongs to the ISO Metric series.

NOTE: The equivalent inch values for sizes above 0.25 mm are given to an accuracy close to, or better than, one part in one thousand. This accuracy would be appropriate to practical limits of size associated with a tolerance of ± 1 per cent of the size. For sizes smaller than 0.25 mm, five places of decimals appear adequate for any likely method of direct measurement in inches. The true millimetre basic sizes should be used, if it is desired to compute limits of size in any alternative characteristic, such as mass or electrical resistance.

TABLE OF BASIC SIZES

NOTE.—Preference should be given to sizes in the R 10, R 20 and R 40 series, in that order.

Basic sizes millimetres			Equivalent sizes (for information)
R 10	R 20	R 40	inches
0.020	0.020	0.020	0.000 79
		0.021	0.000 83
	0.022	0.022	0.000 87
		0.024	0.000 94
0.025	0.025	0.025	0.000 98
		0.026	0.001 02
	0.028	0.028	0.001 10
		0.030	0.001 18
0.032	0.032	0.032	0.001 26
		0.034	0.001 34
	0.036	0.036	0.001 42
		0.038	0.001 50
0.040	0.040	0.040	0.001 58
		0.042	0.001 65
	0.045	0.045	0.001 77
		0.048	0.001 89
0.050	0.050	0.050	0.001 97
		0.053	0.002 09
	0.056	0.056	0.002 20
		0.060	0.002 36
0.063	0.063	0.063	0.002 40
		0.067	0.002 64
	0.071	0.071	0.002 80
		0.075	0.002 95
0.080	0.080	0.080	0.003 15
		0.085	0.003 35
	0.090	0.090	0.003 54
		0.095	0.003 74
0.100	0.100	0.100	0.003 94

Basic sizes millimetres			Equivalent sizes (for information)
R 10	R 20	R 40	inches
0.100	0.100	0.100	0.003 94
		0.106	0.004 17
	0.112	0.112	0.004 41
		0.118	0.004 65
0.125	0.125	0.125	0.004 92
		0.132	0.005 20
	0.140	0.140	0.005 52
		0.150	0.005 91
0.160	0.160	0.160	0.006 30
		0.170	0.006 69
	0.180	0.180	0.007 09
		0.190	0.007 48
0.200	0.200	0.200	0.007 87
		0.212	0.008 35
	0.224	0.224	0.008 82
		0.236	0.009 29
0.250	0.250	0.250	0.009 84
		0.265	0.010 43
	0.280	0.280	0.011 02
		0.300	0.011 81
0.315	0.315	0.315	0.012 40
		0.335	0.013 19
	0.355	0.355	0.013 98
		0.375	0.014 76
0.400	0.400	0.400	0.015 75
		0.425	0.016 73
	0.450	0.450	0.017 72
		0.475	0.018 70
0.500	0.500	0.500	0.019 69
		0.530	0.020 87
	0.560	0.560	0.022 05
		0.600	0.023 62
0.630	0.630	0.630	0.024 80
		0.670	0.026 38
	0.710	0.710	0.027 95
		0.750	0.029 53
0.800	0.800	0.800	0.031 50
		0.850	0.033 46
	0.900	0.900	0.035 43
		0.950	0.037 40
1.000	1.000	1.000	0.039 40

TABLE OF BASIC SIZES
(*Continued*)

NOTE.—**Preference should be given to sizes in the R 10, R 20 and R 40 series, in that order.**

Basic sizes millimetres			Equivalent sizes (for information) inches
R 10	R 20	R 40	
1.00	1.00	1.00	0.039 4
		1.06	0.041 7
	1.12	1.12	0.044 1
		1.18	0.046 5
1.25	1.25	1.25	0.049 2
		1.32	0.052 0
	1.40	1.40	0.055 2
		1.50	0.059 1
1.60	1.60	1.60	0.063 0
		1.70	0.066 9
	1.80	1.80	0.070 9
		1.90	0.074 8
2.00	2.00	2.00	0.078 7
		2.12	0.083 5
	2.24	2.24	0.088 2
		2.36	0.092 9
2.50	2.50	2.50	0.098 4
		2.65	0.104 3
	2.80	2.80	0.110 2
		3.00	0.118 1
3.15	3.15	3.15	0.124 0
		3.35	0.131 9
	3.55	3.55	0.139 8
		3.75	0.147 6
4.00	4.00	4.00	0.157 5
		4.25	0.167 3
	4.50	4.50	0.177 2
		4.75	0.187 0
5.00	5.00	5.00	0.196 9
		5.30	0.208 7
	5.60	5.60	0.220 5
		6.00	0.236 2
6.30	6.30	6.30	0.248 0
		6.70	0.263 8
	7.10	7.10	0.279 5
		7.50	0.295 3
8.00	8.00	8.00	0.315 0
		8.50	0.334 6
	9.00	9.00	0.354 3
		9.50	0.374 0
10.00	10.00	10.00	0.393 7

Basic Sizes millimetres			Equivalent sizes (for information) inches
R 10	R 20	R 40	
10.0	10.0	10.0	0.393 7
		10.6	0.417 3
	11.2	11.2	0.440 9
		11.8	0.464 6
12.5	12.5	12.5	0.492 1
		13.2	0.519 7
	14.0	14.0	0.551 8
		15.0	0.590 6
16.0	16.0	16.0	0.629 9
		17.0	0.669 3
	18.0	18.0	0.708 7
		19.0	0.748 0
20.0	20.0	20.0	0.787 4
		21.2	0.834 6
	22.4	22.4	0.881 9
		23.6	0.929 1
25.0	25.0	25.0	0.984 3

APPENDIX I

STANDARD WIRE GAUGE (S.W.G.)

S.W.G. Number	Inch Size	mm Equivalent	S.W.G Number	Inch Size	mm Equivalent
7/0	0.500	12.700	23	0.024	0.610
6/0	0.464	11.786	24	0.022	0.559
5/0	0.432	10.973	25	0.020	0.508
4/0	0.400	10.160	26	0.018	0.457
3/0	0.372	9.449	27	0.016 4	0.416 6
2/0	0.348	8.839	28	0.014 8	0.375 9
0	0.324	8.230	29	0.013 6	0.345 4
1	0.300	7.620	30	0.012 4	0.315 0
2	0.276	7.010	31	0.011 6	0.294 6
3	0.252	6.401	32	0.010 8	0.274 3
4	0.232	5.893	33	0.010 0	0.254 0
5	0.212	5.385	34	0.009 2	0.233 7
6	0.192	4.877	35	0.008 4	0.213 4
7	0.176	4.470	36	0.007 6	0.193 0
8	0.160	4.064	37	0.006 8	0.172 7
9	0.144	3.658	38	0.006 0	0.152 4
10	0.128	3.251	39	0.005 2	0.132 1
11	0.116	2.946	40	0.004 8	0.121 9
12	0.104	2.642	41	0.004 4	0.111 8
13	0.092	2.337	42	0.004 0	0.101 6
14	0.080	2.032	43	0.003 6	0.091 4
15	0.072	1.829	44	0.003 2	0.081 3
16	0.064	1.626	45	0.002 8	0.071 1
17	0.056	1.422	46	0.002 4	0.061 0
18	0.048	1.219	47	0.002 0	0.050 8
19	0.040	1.016	48	0.001 6	0.040 6
20	0.036	0.914	49	0.001 2	0.030 5
21	0.032	0.813	50	0.001 0	0.025 4
22	0.028	0.711			

APPENDIX II

BIRMINGHAM GAUGE (B.G.)

B.G. Number	Inch Size	mm Equivalent	B.G. Number	Inch Size	mm Equivalent
15/0	1.000 0	25.40	20	0.039 2	0.995 7
14/0	0.958 3	24.34	21	0.034 9	0.886 5
13/0	0.916 7	23.28	22	0.031 25	0.793 8
12/0	0.875 0	22.22	23	0.027 82	0.706 6
11/0	0.833 3	21.17	24	0.024 76	0.628 9
10/0	0.791 7	20.11	25	0.022 04	0.559 8
9/0	0.750 0	19.05	26	0.019 61	0.498 1
8/0	0.708 3	17.99	27	0.017 45	0.443 2
7/0	0.666 6	16.93	28	0.015 625	0.396 9
6/0	0.625 0	15.88	29	0.013 9	0.353 1
5/0	0.588 3	14.94	30	0.012 3	0.312 4
4/0	0.541 6	13.76	31	0.011 0	0.279 4
3/0	0.500 0	12.70	32	0.009 8	0.248 9
2/0	0.445 2	11.31	33	0.008 7	0.221 0
0	0.396 4	10.07	34	0.007 7	0.195 6
1	0.353 2	8.971	35	0.006 9	0.175 3
2	0.314 7	7.993	36	0.006 1	0.154 9
3	0.280 4	7.122	37	0.005 4	0.137 2
4	0.250 0	6.350	38	0.004 8	0.121 9
5	0.222 5	5.652	39	0.004 3	0.109 2
6	0.198 1	5.032	40	0.003 86	0.098 04
7	0.176 4	4.481	41	0.003 43	0.087 12
8	0.157 0	3.988	42	0.003 06	0.077 72
9	0.139 8	3.551	43	0.002 72	0.969 09
10	0.125 0	3.175	44	0.002 42	0.061 47
11	0.111 3	2.827	45	0.002 15	0.054 61
12	0.099 1	2.517	46	0.001 92	0.048 77
13	0.088 2	2.240	47	0.001 70	0.043 18
14	0.078 5	1.994	48	0.001 52	0.038 61
15	0.069 9	1.775	49	0.001 35	0.034 29
16	0.062 5	1.588	50	0.001 20	0.030 48
17	0.055 6	1.412	51	0.001 07	0.027 18
18	0.049 5	1.257	52	0.000 95	0.024 13
19	0.044 0	1.118			

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