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Recommendations for

Dimensions of metallic materials

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Iron and Steel Standards Committee (ISM/-) and the Non-Ferrous Metals Standards Committee (NFM/-) to Technical Committee ISM/NFM/3, upon which the following bodies were represented:

Aluminium Federation
 BEAMA Ltd.
 British Non-Ferrous Metals Federation
 British Railways Board
 British Shipbuilders
 British Steel Industry
 British Steel Industry (Wire Section)
 Electronic Engineering Association
 Institution of Chemical Engineers
 Institution of Production Engineers
 Machine Tool Industry Research Association
 National Association of Steel Stockholders

This British Standard, having been prepared under the direction of the Iron and Steel Standards Committee and the Non-Ferrous Metals Standards Committee, was published under the authority of the Board of BSI and comes into effect on 29 August 1986

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The following BSI references relate to the work on this standard:
 Committee reference ISM/NFM/3
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Foreword

This British Standard has been prepared under the direction of the Iron and Steel Standards Committee and the Non-Ferrous Metals Standards Committee. This standard supersedes BS 4229-1 and BS 4229-2, BS 4391 and DD 5 which are withdrawn.

In the case of wire, the dimensions recommended are those previously given in BS 4391 since they are firmly and logically established in the wire and associated industries. For other products, where a clear pattern of sizes does not exist and where availability and demand vary from one sector of industry to another, it was considered that a list of recommended dimensions based on the rounded R20 series (see BS 2045) should be established without any attempt to distinguish between product type or between ferrous or non-ferrous materials. Suitable dimensions may then be drawn from this list to establish a range of sizes to best meet the pattern of demand.

The detailed recommendations for bar shapes previously given in BS 4229-1 and BS 4229-2 have not therefore been included. In a similar way the recommendations previously given in DD 5 for plate and sheet have been rationalized and the recommendations for thickness of sheet and plate are now referenced as for bar dimensions.

Details of preferred sizes for hexagon bars are given in BS 3692.

It is recommended that applicable British Standards for metallic materials should include combinations of dimensions recommended in this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 4, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard gives recommended dimensions for use as a basis for establishing the sizes of metallic materials in the form of wire, bars (excluding hexagon bars) and flat products including sheet, strip and plate.

NOTE The titles of the publications referred to in this standard are listed on inside back cover.

2 Wire

The diameters for wires should be selected from the recommended dimensions given in Table 1.

3 Bars

The diameters for round bars, and the thicknesses and widths for bars of rectangular or square cross section should be selected from the recommended dimensions given in Table 2.

4 Flat products

The widths and/or lengths for flat products (sheet, strip and plate) should be selected from the recommended dimensions given in Table 3.

The thicknesses for flat products should be selected from the recommended dimensions given in Table 2.

Table 1— Recommended diameters of wire

Choice			Choice			Choice		Choice	
First	Second	Third	First	Second	Third	First	Second	First	Second
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
0.010			0.100			1.00		10.0	
	0.011			0.112			1.12		11.2
0.012			0.125			1.25		12.5	
		0.013			0.132				
	0.014			0.140			1.40		14.0
		0.015			0.150				
0.016			0.160			1.60		16.0	
		0.017			0.170				
	0.018			0.180			1.80		18.0
		0.019			0.190				
0.020			0.200			2.00		20.0	
		0.021			0.212				
	0.022			0.224			2.24		
		0.024			0.236				
0.025			0.250			2.50			
		0.026			0.265				
	0.028			0.280			2.80		
		0.030			0.300				
0.032			0.315			3.15			
		0.034			0.335				
	0.036			0.355			3.55		
		0.038			0.375				
0.040			0.400			4.00			
		0.042			0.425				
	0.045			0.450			4.50		
		0.048			0.475				
0.050			0.500			5.00			
		0.053			0.530				
	0.056			0.560			5.60		
		0.060			0.600				
0.063			0.630			6.3			
		0.067			0.670				
	0.071			0.710			7.10		
		0.075			0.750				
0.080			0.800			8.0			
		0.085			0.850				
	0.090			0.900			9.00		
		0.095			0.950				

Table 2 — Recommended dimensions for bars and flat products

Choice		Choice		Choice		Choice	
First	Second	First	Second	First	Second	First	Second
mm	mm	mm	mm	mm	mm	mm	mm
0.10		1.0		10.0		100.0	
	0.11		1.1		11.0		110.0
0.12		1.2		12.0		120.0	
	0.14		1.4		14.0		140.0
0.16		1.6		16.0		160.0	
	0.18		1.8		18.0		180.0
0.20		2.0		20.0		200.0	
	0.22		2.2		22.0		220.0
0.25		2.5		25.0		250.0	
	0.28		2.8		28.0		280.0
0.30		3.0		30.0		300.0	
	0.35		3.5		35.0		
0.40		4.0		40.0			
	0.45		4.5		45.0		
0.50		5.0		50.0			
	0.55		5.5		55.0		
0.60		6.0		60.0			
	0.70		7.0		70.0		
0.80		8.0		80.0			
	0.9		9.0		90.0		

Table 3 — Recommended widths and lengths of flat products

mm	mm
400	2 500
500	3 000
600	4 000
800	5 000
1 000	6 000
1 200	8 000
1 250	
1 500	10 000
2 000	

Publications referred to

BS 2045, *Preferred numbers*

BS 3692, *ISO metric precision hexagon bolts, screws and nuts*

[^] Referred to in foreword only.

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