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**British Standard: Aerospace Series  
Specification for**

**Tubing outside diameters and thicknesses**

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**Foreword**

This British Standard is published to lay down a standard range of outside diameters and thicknesses for cylindrical tubes used in aircraft from which particular ranges can be selected for inclusion in individual metallic tube standards.

The standard fully reflects the ranges laid down in International Standard ISO 2964 'Aircraft - tubing outside diameters and thicknesses - metric dimensions', prepared by the International Organization for Standardization, and adopts dimensions selected from the preferred series of numbers and rounded in accordance with BS 2045, 'Preferred numbers'.

The range of sizes in this standard may be further restricted to those dimensions specified in the Society of British Aerospace Companies (SBAC) reference sheet RS 696.

**Specification**

**1. Scope**

This British Standard specifies the outside diameters and thicknesses of tubes, for all metallic materials, to be selected for all uses in aircraft structural and system design.

**2. Dimensions**

The outside diameters and thicknesses of the tubes shall be selected from those specified in Table 1. They are arranged in columns and lines in the order of series of preferred numbers.

Whenever possible the tube size requirements should be rationalized on the R 10 series of dimensions. The R 20 and R 40 series of dimensions have been introduced to cater for the mainly structural problems of mating tubes and should only be used when absolutely essential; the R 20 series should then be considered before the R 40 series.

**3. Tolerances**

The tolerances shall be specified in the relevant tube specification and shall be appropriate to the material and intended application.

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Table 1. Tubing outside diameters and thicknesses

Dimensions in millimetres

Outside diameters			Thicknesses																			
R10	R20	R40	0.4	0.5	0.6	0.8	1	1.2	—	—	1.6	—	2	—	2.5		3.2	4	5	6	8	10
			0.4	0.5	0.6	0.8	1	1.2	1.4	—	1.6	1.8	2	2.2	2.5	(3)	3.2	4	5	6	8	10
			0.4	0.5	0.7	0.8	1	1.2	1.4	(1.5)	1.6	1.8	2	2.2	2.5	(3)	3.2	4	5	6	8	10
3.2	3.2	3.2	•	•	•																	
4	4	4	•	•	•	•	•															
5	5	5	•	•	•	•	•															
6	6	6	•	•	•	•	•	•														
8	8	8	•	•	•	•	•	•	•			•	•	•	•							
10	10	10	•	•	•	•	•	•	•	•	•	•	•	•	•							
12	12	12		•	•	•	•	•	•	•	•	•	•	•	•	•						
—	14	14		•	•	•	•	•	•	•	•	•	•	•	•	•						
—	—	15		•	•	•	•	•	•	•	•	•	•	•	•	•						
16	16	16		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
—	18	18		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
20	20	20		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
—	22	22			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
25	25	25		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
—	28	28			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
32	32	32		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
—	36	36			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
—	—	38			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
40	40	40		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
—	45	45			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
50	50	50			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
—	56	56			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
63	63	63			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
—	70	70			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
80	80	80			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
—	90	90				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
100	100	100						•		•	•	•	•	•	•	•	•	•	•	•	•	

NOTE 1. Whenever possible the selection of dimensions should be selected from the R 10 series shown in bold type (refer to Clause 2).  
 NOTE 2. The dimensions within the heavy lines are the sizes recommended in SBAC reference sheet RS 696.  
 NOTE 3. The dimensions in parentheses are non-preferred, and have been included to reflect the contents of International Standard ISO 2964.

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The following BSI references relate to the work on this standard:  
Committee reference ACE/15 Draft for comment 73/30837 DC