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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

Withdrawn in 1981
Replaced by ISO 2535 : 1979

ISO RECOMMENDATION

R 469

DIMENSIONS AND CONDUCTOR RESISTANCE OF GENERAL PURPOSE ELECTRICAL CABLES WITH COPPER CONDUCTORS, FOR AIRCRAFT

1st EDITION
February 1966

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 469, *Dimensions and Conductor Resistance of General Purpose Electrical Cables with Copper Conductors, for Aircraft*, was drawn up by Technical Committee ISO/TC 20, *Aircraft*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1957 and led, in 1960, to the adoption of a Draft ISO Recommendation.

In November 1960, this Draft ISO Recommendation (No. 417) was circulated to all the ISO Member Bodies for enquiry. It was approved by the following Member Bodies:

Australia	Germany	Portugal
Belgium	Iran	Spain
Canada	Israel	Sweden
Chile	Italy	Turkey
Czechoslovakia	Japan	United Kingdom
Finland	Netherlands	Yugoslavia
France	New Zealand	

One Member Body opposed the approval of the Draft: U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in February 1966, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 469 February 1966

DIMENSIONS AND CONDUCTOR RESISTANCE OF GENERAL PURPOSE ELECTRICAL CABLES WITH COPPER CONDUCTORS, FOR AIRCRAFT

The dimensions and conductor resistance of general purpose electrical cables with copper conductors for aircraft should be in accordance with Table 1 or Table 2, as appropriate.

TABLE 1. — **Normal series**

Nominal conductor area		Size No.	Minimum number of wires	Maximum resistance of finished cable at 20 °C		Maximum diameter of stranded conductor		Maximum overall diameter of finished cable *			
				per 1 km	per 1000 yd			Class A		Class B	
mm²	in²			ohms	ohms	mm	in	mm	in	mm	in
** 0.15	0.000 233	26	7	152	139	0.56	0.022	1.9	0.075	1.9	0.075
** 0.24	0.000 372	24	7	100	91.5	0.69	0.027	1.9	0.075	2.0	0.080
0.38	0.000 589	22	12	54.3	49.7	0.86	0.034	2.0	0.080	2.3	0.090
0.60	0.000 93	20	19	33.9	31	1.1	0.043	2.3	0.090	2.5	0.100
0.95	0.001 47	18	19	21.0	19.2	1.32	0.052	2.5	0.100	2.9	0.115
1.22	0.001 89	16	19	16.0	14.7	1.6	0.063	2.8	0.110	3.3	0.130
1.94	0.003 01	14	19	9.8	8.97	1.95	0.077	3.4	0.132	3.8	0.150
3.08	0.004 77	12	19	6.2	5.64	2.5	0.100	3.8	0.150	4.3	0.170
5.29	0.008 2	10	37	3.8	3.48	3.3	0.13	5.0	0.196	5.1	0.200
8.55	0.013 3	8	120	2.30	2.10	4.5	0.176	6.3	0.247	6.5	0.255
13.6	0.021 1	6	133	1.43	1.31	5.6	0.221	7.6	0.300	7.9	0.310
21.6	0.033 5	4	133	0.90	0.822	7.3	0.287	9.3	0.365	9.4	0.370
33.9	0.052 6	2	203	0.59	0.54	8.8	0.346	11.0	0.435	11.3	0.445
41.5	0.064 3	1	248	0.48	0.44	10.0	0.394	12.2	0.480	12.6	0.495
52.8	0.081 8	0	323	0.38	0.342	11.3	0.445	13.7	0.540	14.0	0.550
68	0.105	00	416	0.30	0.275	12.5	0.492	15.4	0.605	15.5	0.610
85	0.132	000	513	0.24	0.22	14.4	0.567	16.9	0.665	17.3	0.680
107	0.166	0000	666	0.19	0.171	15.9	0.626	18.7	0.735	19.1	0.750

TABLE 2. — **Lightweight series**

Nominal conductor area		Size No.	Minimum number of wires	Maximum resistance of finished cable at 20 °C		Maximum diameter of stranded conductor		Maximum overall diameter of finished cable	
				per 1 km	per 1000 yd				
mm²	in²			ohms	ohms	mm	in	mm	in
** 0.15	0.000 233	26	7	152	139	0.56	0.022	—	—
** 0.24	0.000 372	24	7	100	91.5	0.69	0.027	—	—
0.38	0.000 589	22	12	54.3	49.7	0.86	0.034	1.83	0.072
0.60	0.000 93	20	19	33.9	31	1.1	0.043	2.08	0.082
0.95	0.001 47	18	19	21.0	19.2	1.32	0.052	2.34	0.092
1.22	0.001 89	16	19	16.0	14.7	1.6	0.063	2.6	0.102
1.94	0.003 01	14	19	9.8	8.97	1.95	0.077	3.1	0.122
3.08	0.004 77	12	19	6.2	5.64	2.5	0.100	3.6	0.142
5.29	0.008 2	10	37	3.8	3.48	3.3	0.13	4.5	0.177
8.55	0.013 3	8	120	2.30	2.10	4.5	0.176	5.6	0.220

* Two classes of maximum overall diameters are given to provide for different methods of construction. Class A sizes are recommended for new designs. Class B sizes are those allowable for replacement purposes.

** For multi-core and special cables only.