

Annex

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 170

SHIPBUILDING DETAILS

ANCHOR CHAINS, STUD LINKS

(COMMON LINKS, ENLARGED LINKS, END LINKS AND JOINING SHACKLES)

1st EDITION

December 1960

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Printed in Switzerland

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

BRIEF HISTORY

The ISO Recommendation R 170, *Anchor Chains, Stud Links (Common Links, Enlarged Links, End Links and Joining Shackles)*, was drawn up by Technical Committee ISO/TC 8, *Shipbuilding Details*, the Secretariat of which is held by the Stichting Nederlands Normalisatie-instituut (NNI).

A draft proposal was drawn up for the standardization of details of anchor chains, stud links, based on studies of former International Federation of the National Standardizing Associations (ISA).

At its third meeting, held in Genoa, in 1956, the Technical Committee decided to accept this proposal, subject only to one modification concerning the dimension *C* of the end link. The draft so revised was submitted by correspondence to the members of the Technical Committee. As no objections were received within the given time limit, the draft proposal was adopted as a draft ISO Recommendation.

On 22 May 1959, the Draft ISO Recommendation (No. 285) was distributed to all the ISO Member Bodies and was approved by the following Member Bodies:

Belgium	Israel	Romania
Burma	Italy	Spain
Chile	Japan	Sweden
Finland	Netherlands	Switzerland
Germany	Poland	Turkey
Greece	Portugal	United Kingdom

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 December 1960, to accept it as an ISO RECOMMENDATION.

SHIPBUILDING DETAILS

ANCHOR CHAINS, STUD LINKS

(COMMON LINKS, ENLARGED LINKS, END LINKS AND JOINING SHACKLES)

1. GENERAL REMARKS

1.1 Shape and dimensions

The recommended shape and dimensions for anchor chains, stud links, are specified in the following sections:

Common link	section 2, page 4,
Enlarged link	section 3, page 6,
End link	section 4, page 8,
Joining shackle with shackle pin	section 5, page 10.

1.1.1 All links and shackles should be of uniform shape and the inside radii of common and enlarged links should be sufficient to allow each link to bed properly and work freely. The inside radius of end links should be equal to half the inside width and their sides should be parallel.

1.1.2 All dimensions specified in this ISO Recommendation are *after* the cables and shackles have been subjected to the statutory proof loads.

1.2 Tolerance

The allowable manufacturing tolerance for the dimensions B , B_1 and C is ± 2 per cent.

1.3 Material

The quality of the material used for the manufacture of the links and the joining shackle should not be inferior in any respect to that of the material used for the manufacture of the other assembling parts forming the anchor cable.

The design, material and tests of the complete anchor cables are subject to the legal requirements of the countries concerned and of the recognized approving authorities.

1.4 References

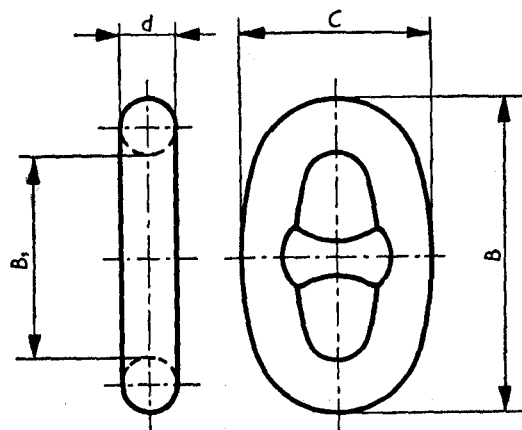
For links of other types, see

ISO Recommendation R 39, *Anchor Chains - Lugless Joining Shackles, Kenter Type*,
and

ISO Recommendation R 40, *Anchor Chains - Studless Links*.

2. COMMON LINK

2.1 Dimensions



A = nominal dimension of common link = d

d = diameter of material of common link

2 values: d' = millimetre value of d

d'' = inch value of d , transposed into rounded off millimetre value

$$B = 6 \frac{d' + d''}{2}$$

$$B_1 = B - 2d$$

$$C = 3.6 \frac{d' + d''}{2}$$

Example for $A = 20.5$ mm or $13/16$ in:

$$B = 6 \frac{20.5 + 20.6}{2} = 123 \text{ mm (rounded off)}$$

$$B_1 = 123 - 2 \times 20.5 = 82 \text{ mm}$$

$$C = 3.6 \frac{20.5 + 20.6}{2} = 74 \text{ mm (rounded off)}$$

A		d		B	B ₁	C
		d'	d''			
mm	in	mm	mm	mm	mm	mm
11	7/16	11	11.1	66	44	40
12.5	1/2	12.5	12.7	76	51	45
14.5	9/16	14.5	14.3	86	57	52
16	5/8	16	15.9	96	64	57
17.5	11/16	17.5	17.5	105	70	63
19	3/4	19	19.1	114	76	69
20.5	13/16	20.5	20.6	123	82	74
22	7/8	22	22.2	133	89	80
24	15/16	24	23.8	143	95	86
25.5	1	25.5	25.4	153	102	92
27	1 1/16	27	27.0	162	108	97
28.5	1 1/8	28.5	28.6	171	114	103
30	1 3/16	30	30.2	181	121	108
32	1 1/4	32	31.8	191	127	115
33	1 5/16	33	33.3	199	133	119
35	1 3/8	35	34.9	210	140	126
37	1 7/16	37	36.5	220	146	132
38	1 1/2	38	38.1	228	152	137
40	1 9/16	40	39.7	239	159	143
41	1 5/8	41	41.3	247	165	148