
INTERNATIONAL STANDARD



2731

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Dee shackles

First edition – 1973-12-01

To be withdrawn

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 2731:1973

<https://standards.iteh.ai/catalog/standards/sist/fd455692-a9af-43b8-b795-8a773f0f36ef/iso-2731-1973>

UDC 672.643/.66

Ref. No. ISO 2731-1973 (E)

Descriptors : chains, accessories, shackles, dimensions.

Price based on 3 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2731 was drawn up by Technical Committee ISO/TC 111, *Round steel link chains, chain wheels, lifting hooks and accessories*, and circulated to the Member Bodies in March 1972.

It has been approved by the Member Bodies of the following countries :

Austria	Italy	Sweden
Canada	Japan	Thailand
Egypt, Arab Rep. of	New Zealand	Turkey
France	Norway	United Kingdom
India	South Africa, Rep. of	
Ireland	Spain	

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Australia
Belgium
Netherlands
Romania
U.S.A.

Dee shackles

iTeh STANDARD PREVIEW (standards.iteh.ai)

0 INTRODUCTION

ISO 2731:1973

<https://standards.iteh.ai/catalog/standards/sist/fd455692-a9af-43b8-b795-6e7346b93146-1731-1973>

In common with other items of lifting tackle, shackles are to be manufactured with lifting capacities in the R 10 series of preferred numbers based on the module of 1 tonne (see ISO 3). Each lifting capacity is associated with given internal dimensions (Table 1), which are designated to accept other items with which it would be appropriate to use the shackle.

This International Standard is intended to be read in conjunction with ISO 2415, which gives definitions and specifies the types of shackle pin, material, tolerances on dimensions, workmanship, finish, screw threads, marking and certification.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions of dee shackles for lifting capacities in the range 1,0 to 80 t.

All the other recommendations relating to dee shackles are given in ISO 2415.

Three alternative grades are provided, namely L¹⁾, M, and S.

2 REFERENCES

ISO 3, *Preferred numbers – Series of preferred numbers*.

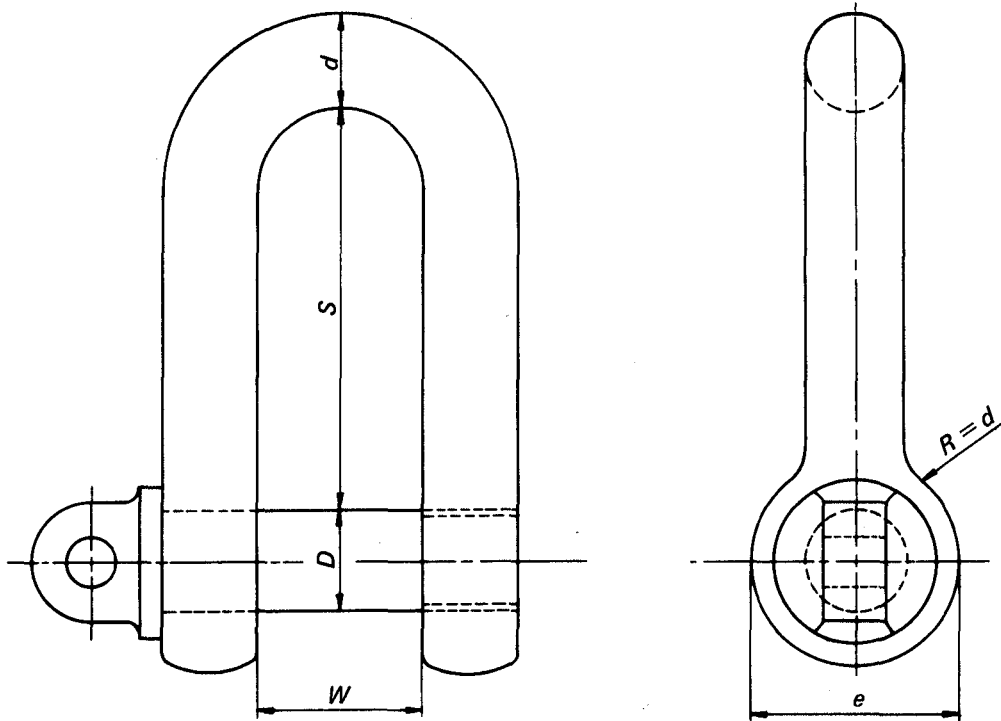
ISO 2415, *Shackles – General characteristics*.

3 DIMENSIONS

The inside dimensions, which control the capacity of the shackle to accept other items of lifting tackle, are given in Table 1.

The dimensions determining the strength of the shackle are given in Table 2 for the three grades, L, M, and S.

1) Grade L is intended for marine purposes only.



STANDARD PREVIEW

TABLE 1 - Inside dimensions of dee shackles

Lifting capacity C_p	Proof load F_e	Jaw inside width W $(14 \sqrt{0,1 F_e})$	Inside length S $(2,2 W)$
tonnes	KN	mm	mm
1,0	20	20	44
1,25	25	22	49
1,6	32	25	55
2,0	40	28	62
2,5	50	31	69
3,2	64	35	78
4,0	80	40	87
5,0	100	44	97
6,3	126	50	109
8,0	160	56	123
10,0	200	63	138
12,5	250	70	154
16,0	320	79	174
20,0	400	89	195
25,0	500	99	218
32,0	640	112	247
40,0	800	125	275
50,0	1 000	140	308
63,0	1 260	157	346
80,0	1 600	177	390

NOTE - Values of S are derived from exact values of W and not the tabulated rounded values.

TABLE 2 – Body, pin and eye diameters of dee shackles

Lifting capacity C_p	Body material diameter (d) min.			Pin diameter (D) min. (1,15 d)			Eye outside diameter (e) min. (2 D min.)		
	$13\sqrt{C_p}$	$12\sqrt{C_p}$	$10,2\sqrt{C_p}$	Grade L	Grade M	Grade S	Grade L	Grade M	Grade S
	Grade L	Grade M	Grade S	Grade L	Grade M	Grade S	Grade L	Grade M	Grade S
tonnes	mm	mm	mm	mm	mm	mm	mm	mm	mm
1,0	13	12	11	15	14	12	30	28	24
1,25	15	14	12	17	15	13	34	30	26
1,6	17	16	13	19	18	15	38	36	30
2,0	19	17	15	21	20	17	42	40	34
2,5	21	19	17	24	22	19	48	44	38
3,2	24	22	19	27	25	21	54	50	42
4,0	26	24	21	30	28	23	60	56	46
5,0	29	27	23	33	31	26	66	62	52
6,3	33	31	26	37	35	29	74	70	58
8,0	37	34	29	42	39	33	84	78	66
10,0	41	38	33	47	44	37	94	88	74
12,5	46	43	36	53	49	42	106	98	84
16,0	52	48	41	60	55	47	120	110	94
20,0	59	54	46	67	62	52	134	124	104
25,0	65	60	51	75	69	59	150	138	118
32,0	74	68	58	84	78	66	168	156	132
40,0	83	76	65	94	87	74	188	174	148
50,0	92	85	72	106	98	83	212	196	166
63,0	104	96	81	119	110	93	238	220	186
80,0	117	106	91	134	124	105	268	248	210

NOTES

- 1 The pin and body diameters actually used may be selected from any standard series of sizes for bar material, such that having regard to the method of manufacture, the finished diameters will in no case fall below the minimum values shown.
- 2 Tabulated values of d are rounded up. D is calculated from the exact value of d and rounded.