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Short pitch transmission precision bush chains and chain wheels

AMENDMENT 1

Amendment 1 to International Standard ISO 1395 was developed by Technical Committee ISO/TC 100, *Chains and chain wheels for power transmission and conveyors*, and was circulated to the member bodies in May 1981.

It has been approved by the member bodies of the following countries :

Austria	India	South Africa, Rep. of
Belgium	Italy	Spain
Brazil	Japan	Sweden
Czechoslovakia	Korea, Rep. of	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA
France	Poland	USSR
Germany, F. R.	Romania	

No member body expressed disapproval of the document.

Page 1

Replace sub-clause 3.4 by the following :

“3.4 Minimum ultimate tensile strength

3.4.1 The minimum tensile strength is the minimum strength of samples tested to destruction in tensile loading, as defined in 3.4.2. This strength is not a working load. It is intended primarily as a comparative figure between chains of various materials and constructions. For application information, the manufacturers or their published data should be consulted.

3.4.2 A tensile load, not less than that specified in tables 1 and 1M, is applied slowly to the ends of a chain length, containing at least five free pitches, by means of shackles permitting free movement on both sides of the chain centre line, in the normal plane of articulation.

Tests in which failures occur adjacent to the shackles shall be disregarded.

Failure shall be considered to have occurred at the first point where increasing extension is no longer accompanied by increasing load, i.e. the summit of the load/extension diagram.

3.4.3 The tensile test shall be considered a destructive test. Even though a chain may not visibly fail when subjected to the minimum breaking load it will have been stressed beyond the yield point and will be unfit for service.”

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Descriptors : precision equipment, chains, sprocket wheels, chain drives, specifications, dimensions, designation.

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Replace sub-clause 3.5 by the following :

"3.5 Proof loading

It is recommended that all chains should be proof loaded to one-third of the minimum tensile breaking load given in tables 1 and 1M."

Page 3

Sub-clause 3.6; second paragraph, delete the words "49 times the pitch of the chain" and substitute "a minimum of 24 in (610 mm)".

Page 5

Tables 1 and 1M; delete the existing tables and substitute the tables on the following page (only columns 4 and 15 have been amended).

Page 8

Sub-clause 5.5.1

Amend " r_x " to read "tooth side radius" and " r_a " to read "shroud fillet radius".

Sub-clause 5.5.2

Amend as follows :

- a) " r_x " to read " $r_{x \text{ nom}} = p$ ";
- b) " b_a " to read " $b_{a \text{ nom}} = 0,13 p$ ";
- c) Delete " $r_{a \text{ act}} = \text{actual shroud radius provided}$ ";
- d) " d_g " to read

$$d_g = p \cot \frac{180^\circ}{z} - 1,04 h_2 - 0,030 \text{ in (where } p \text{ and } h_2 \text{ are expressed in inches)}$$

or

$$= p \cot \frac{180^\circ}{z} - 1,04 h_2 - 0,76 \text{ mm (where } p \text{ and } h_2 \text{ are expressed in millimetres)."$$

Table 1 — Chain dimensions, measuring loads and breaking loads (Inch-pound units)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ISO chain number	Pitch	Bush diameter	Width between inner plates	Bearing pin body diameter	Bush bore	Chain path depth	Inner plate depth	Outer/intermediate plate depth	Cranked link dimensions*		Transverse pitch	Width over inner link	Width between outer plates	Width over bearing pins			Additional width for joint fastener	Measuring load			Breaking load			
	p	d_1 max.	b_1 min.	a_2 max.	a_3 min.	h_1 min.	h_2 max.	h_3 max.	l_1 min.	l_2 min.	c	p_1	b_2 max.	b_3 min.	b_4 max.	Duplex b_5 max.	Triplex b_6 max.	b_7 max.	Simple	Duplex	Triplex	Simple	Duplex	Triplex
	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	lbf	lbf	lbf	lbf	lbf	lbf
04 C	0.250	0.130	0.122	0.091	0.092	0.247	0.237	0.205	0.104	0.121	0.003	0.252	0.189	0.191	0.36	0.61	0.86	0.10	10	20	30	780	1 560	2 340
06 C	0.375	0.200	0.184	0.141	0.143	0.366	0.356	0.307	0.156	0.181	0.003	0.399	0.294	0.296	0.52	0.92	1.32	0.13	16	32	48	1 750	3 500	5 250

Table 1M — Chain dimensions, measuring loads and breaking loads (Metric units)

	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	daN	daN	daN	daN	daN	daN
04 C	6.35	3.30	3.10	2.311	2.34	6.27	6.02	5.21	2.64	3.06	0.08	6.40	4.80	4.85	9.1	15.5	21.8	2.5	5	10	15	350	700	1 050
06 C	9.525	5.08	4.68	3.580	3.63	9.30	9.05	7.90	3.96	4.60	0.08	10.13	7.47	7.52	13.2	23.4	33.5	3.3	7	14	21	790	1 580	2 370

* Cranked links are not recommended for use on chains which are intended for onerous applications.