INTERNATIONAL STANDARD

ISO 7403

Second edition
1998-03-15

Aerospace — Spline drives — Wrenching configuration — Metric series

Aéronautique et espace — Entraînements cannelés — Série métrique

Reference number
ISO 7403:1998(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 7403 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

This second edition cancels and replaces the first edition (ISO 7403:1983), of which it constitutes a technical revision.

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Printed in Switzerland

Aerospace — Spline drives — Wrenching configuration — Metric series

1 Scope

This International Standard specifies the metric wrenching configuration dimensions of spline drives.

This is a design standard.

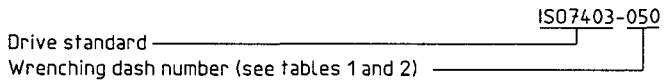
2 Configuration and dimensions

See figures 1 and 2 and tables 1 and 2. Dimensions and tolerances are expressed in millimetres.

Variations in size, form and position of the 12 splines are permitted within the wrenching length, provided that the actual profile falls within the maximum and minimum material conditions shown in figures 1 and 2. Dimensions are prior to forming the locking element on self-locking nuts.

3 Designation

The drive designation shall be as follows:



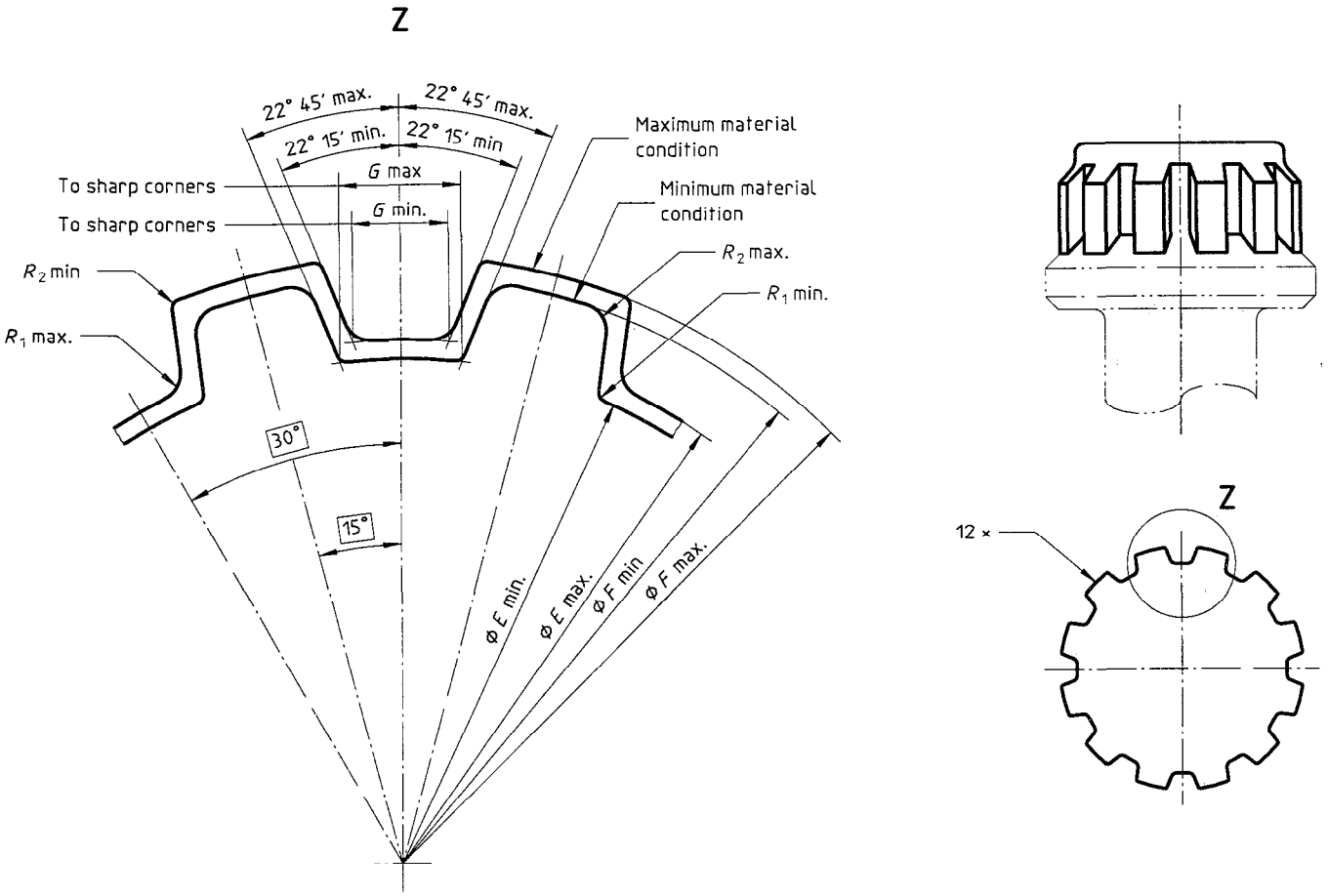


Figure 1 — Configuration — External spline drive

Table 1 — Dimensions — External spline drive

Wrenching dash number	Maximum material condition					Minimum material condition				
	E max	*F* max	*G* min.	R_1 max	R_2 min	*E* min	*F* min	*G* max.	R_1 min.	R_2 max
050	5,14	6,20	0,53	0,20	0,08	5,01	6,02	0,68	0,08	0,20
055	5,66	6,79	0,58	0,20	0,08	5,54	6,61	0,73	0,08	0,20
060	6,18	7,38	0,62	0,20	0,08	6,03	7,20	0,77	0,08	0,20
070	7,23	8,56	0,71	0,25	0,13	7,08	8,36	0,86	0,13	0,25
080	8,27	9,75	0,80	0,25	0,13	8,12	9,54	0,95	0,13	0,25
090	9,31	10,93	0,89	0,25	0,13	9,16	10,70	1,04	0,13	0,25
100	10,36	12,12	0,98	0,25	0,13	10,21	11,89	1,13	0,13	0,25
110	11,40	13,30	1,07	0,25	0,13	11,22	13,07	1,25	0,13	0,25
120	12,44	14,48	1,16	0,38	0,13	12,27	14,23	1,34	0,13	0,38
130	13,49	15,67	1,25	0,38	0,13	13,31	15,41	1,43	0,13	0,38
140	14,53	16,85	1,34	0,38	0,13	14,35	16,57	1,52	0,13	0,38
150	15,58	18,03	1,43	0,38	0,13	15,40	17,75	1,64	0,13	0,38
160	16,62	19,22	1,52	0,38	0,13	16,44	18,94	1,73	0,13	0,38
170	17,66	20,40	1,61	0,51	0,13	17,48	20,12	1,82	0,13	0,51
180	18,70	21,58	1,70	0,51	0,13	18,50	21,31	1,91	0,13	0,51
190	19,75	22,77	1,79	0,51	0,13	19,55	22,49	2,00	0,13	0,51
210	21,84	25,13	1,97	0,64	0,13	21,63	24,86	2,20	0,13	0,64
220	22,88	26,32	2,07	0,64	0,13	22,68	26,01	2,29	0,13	0,64
240	24,97	28,69	2,25	0,64	0,13	24,76	28,38	2,47	0,13	0,64
270	28,10	32,24	2,52	0,76	0,25	27,89	31,93	2,75	0,25	0,76
300	31,23	35,79	2,79	0,89	0,25	30,97	35,46	3,02	0,25	0,89
320	33,31	38,15	2,97	0,89	0,25	33,06	37,82	3,20	0,25	0,89
360	37,49	42,89	3,33	1,02	0,25	37,23	42,56	3,56	0,25	1,02
400	41,66	47,62	3,69	1,14	0,38	41,41	47,29	3,94	0,38	1,14
410	42,70	48,81	3,78	1,14	0,38	42,45	48,48	4,04	0,38	1,14
460	47,92	54,72	4,23	1,27	0,38	47,67	54,39	4,49	0,38	1,27
500	52,09	59,46	4,59	1,27	0,38	51,84	59,10	4,85	0,38	1,27

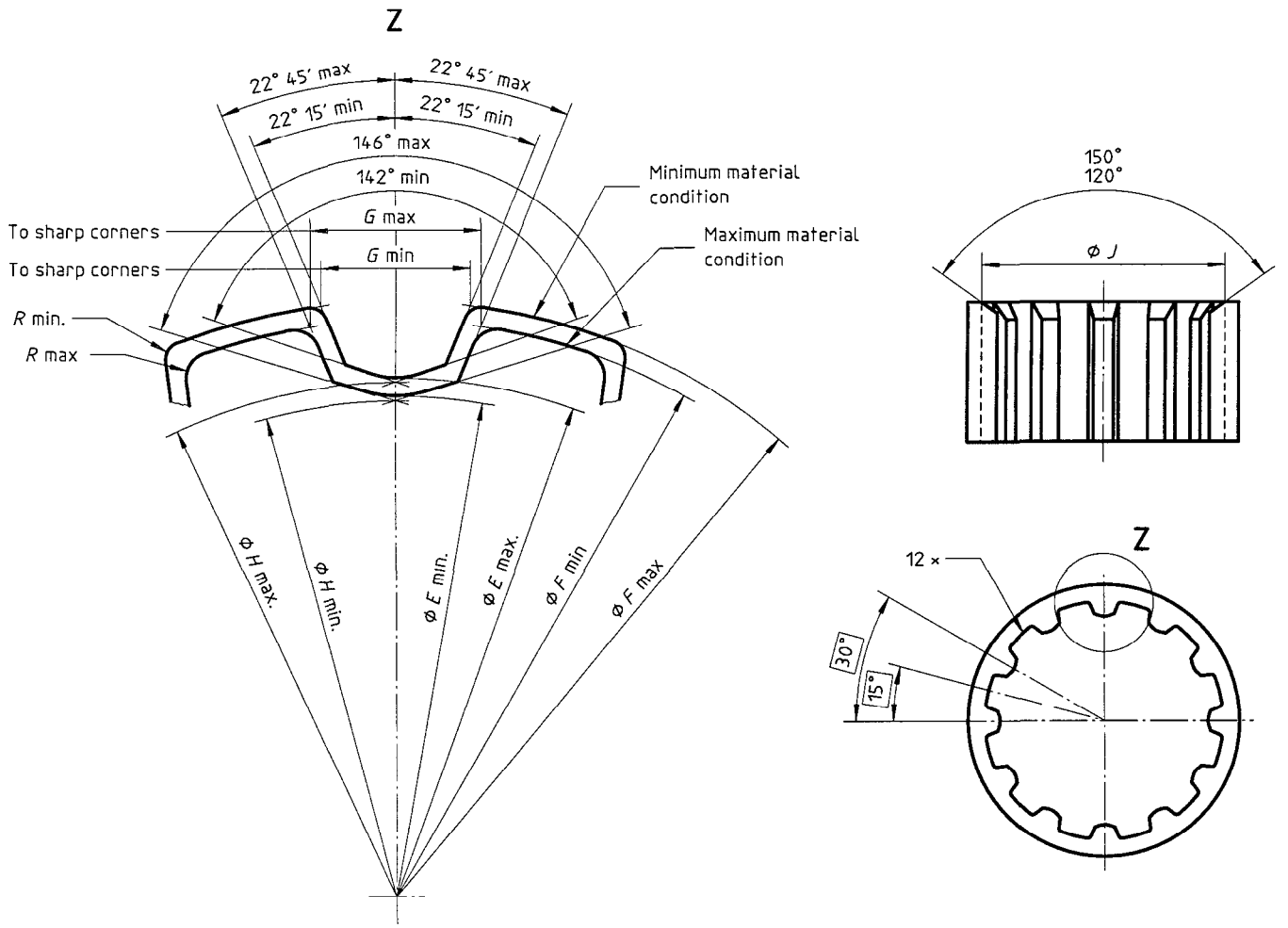


Figure 2 — Configuration — Internal spline drive

Table 2 — Dimensions — Internal spline drive

Wrenching dash number	Maximum material condition						Minimum material condition					
	E min	*F* min	*G* max	*H* min	*J* min	*R* max	*E* max.	*F* max.	*G* min.	*H* max.	*J* max	*R* min.
050	5,23	6,32	0,94	5,20	6,43	0,25	5,34	6,43	0,83	5,30	6,83	0,13
055	5,75	6,92	1,01	5,72	7,02	0,25	5,86	7,02	0,91	5,82	7,42	0,13
060	6,28	7,51	1,08	6,24	7,61	0,25	6,42	7,61	0,98	6,37	8,01	0,13
070	7,32	8,69	1,23	7,28	8,79	0,25	7,46	8,79	1,13	7,40	9,19	0,13
080	8,36	9,87	1,38	8,31	9,98	0,25	8,50	9,98	1,28	8,44	10,38	0,13
090	9,41	11,06	1,53	9,35	11,16	0,25	9,55	11,16	1,43	9,47	11,56	0,13
100	10,46	12,24	1,68	10,39	12,34	0,25	10,63	12,34	1,55	10,55	12,74	0,13
110	11,50	13,43	1,83	11,43	13,55	0,38	11,67	13,55	1,70	11,58	13,95	0,25
120	12,54	14,61	1,97	12,46	14,74	0,38	12,77	14,74	1,85	12,67	15,14	0,25
130	13,58	15,79	2,12	13,50	15,92	0,38	13,81	15,92	2,00	13,71	16,32	0,25
140	14,64	16,98	2,27	14,55	17,10	0,38	14,89	17,10	2,14	14,77	17,50	0,25
150	15,68	18,16	2,42	15,58	18,31	0,38	15,93	18,31	2,27	15,81	18,71	0,25
160	16,72	19,34	2,57	16,62	19,50	0,38	16,97	19,50	2,42	16,84	19,90	0,25
170	17,76	20,53	2,72	17,65	20,68	0,38	18,05	20,68	2,56	17,91	21,08	0,25
180	18,80	21,71	2,86	18,69	21,86	0,38	19,09	21,86	2,71	18,95	22,26	0,25
190	19,85	22,89	3,01	19,73	23,05	0,38	20,20	23,05	2,86	20,04	23,45	0,25
210	21,94	25,26	3,31	21,80	25,44	0,38	22,28	25,44	3,13	22,11	25,84	0,25
220	22,98	26,44	3,46	22,84	26,62	0,38	23,33	26,62	3,28	23,15	27,02	0,25
240	25,06	28,81	3,75	24,91	28,99	0,38	25,41	28,99	3,58	25,22	29,39	0,25
270	28,21	32,36	4,20	28,04	32,54	0,51	28,67	32,54	4,02	28,45	32,94	0,25
300	31,33	35,91	4,65	31,14	36,09	0,51	31,80	36,09	4,47	31,56	36,49	0,25
320	33,42	38,28	4,94	33,21	38,46	0,51	33,88	38,46	4,76	33,63	38,86	0,25
360	37,60	43,01	5,54	37,37	43,19	0,51	38,18	43,19	5,36	37,89	43,59	0,25
400	41,77	47,75	6,13	41,52	47,95	0,64	42,35	47,95	5,93	42,03	48,35	0,25
410	42,81	48,93	6,28	42,55	49,14	0,64	43,40	49,14	6,07	43,07	49,54	0,25
460	48,02	54,85	7,02	47,73	55,05	0,64	48,62	55,05	6,82	48,24	55,45	0,25
500	52,19	59,58	7,61	51,87	59,79	0,64	52,79	59,79	7,41	52,38	60,19	0,25

ICS 49.030.01