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Organisation Internationale de Normalisation
Internationale Normenorganisation

ISO/TC 213

*Dimensional and geometrical product
specifications and verification*

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N 162

Report of voting on ISO/CD 8062-2

Voting started:	1997-10-01
Voting terminated:	1998-01-01
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DANISH COMMENTS ON ISO/CD 8062-2

Denmark agrees in principle on the content of ISO/CD 8062-2, but will raise the question of the validity of the tolerance numbers:

During the ISO/TC 213 meeting session in San Diego, January 1997, a presentation was given on:

“Assessment of the dimensional variability of production steel castings for tolerance settings”

by Prof. Robert C. Voigt, Penn State University Park, Pennsylvania, USA. This presentation contained the result of a detailed and thorough investigation of casting tolerances in foundries across USA. The summary of this presentation indicates that the dimensional variability of production castings features is less than indicated in the current ISO 8062 and repeated in its partly successor ISO/CD 8062-2.

It is the Danish opinion that this conclusion is of importance as it is based on recent data collected by the Steel Founders Society of America (SFSA) and somewhat contradicts the older data set (mainly European) collected for the preparation of the current ISO 8062. This fact may raise questions as to future validity of the tolerance numbers given in ISO/CD 8062-2, therefore, Denmark finds it essential that this issue is investigated thoroughly in ISO/TC 213 and ISO/TC 213/WG 9 before any proceedings for DIS-ballot.

DUTCH COMMENTS ON ISO/CD 8062-2

Editorial comment:

To change the term “circularity” into “roundness”.

Technical comment:

Clause 10.2

In our opinion it is not logical to indicate the grade between brackets behind the dimension, because for the dimensional and for the geometrical tolerance the grade number indicated without brackets directly after the indication “CT” or “CTG”. So we propose to indicate the machinery allowance as /for example) “RMA H” (or “RMA H (6)” if addition of the dimension is convenient).

U.S. Vote on ISO/TC213 Proposed Draft of ISO/CD 8062-2

Subject: Proposed Draft of ISO/CD 8062-2, GPS - Dim. and Geometrical Tolerances for Moulded Parts - Part 2: Dimensional and Geometrical Tolerances and Machining Allowances for Castings

We agree to the circulation of the draft as a DIS in accordance with 2.6.1 of part 1 of the ISO/IEC Directives with comments.

There should be a more precise definition of "nominal length." Para 4.2 states that it should be the largest dimension of the considered feature, and Figure 5 shows the largest dimension to be in one of the primary axes. What happens when the part is not rectangular?

Similarly how is the "largest dimension" as used in Table 6 determined?

FRENCH COMMENTS ON ISO/CD 8062-2

This draft is not applicable to investment castings. We propose to refer to the values of the table enclosed (table 1 - Guide pratique: Fondrie de precision à modèle perdu - Mai 1990 - SGFF).

Table A.1:

S Heading: Write Z_n instead of Zu

S Change values for pressure die casting zinc alloys, delete “4 to 8” and write “1 to 4” (see for example the table 1 of NF A 66-002 enclosed)

Table A.3:

S Heading: Write Z_n instead of Zu

S Change values for pressure die casting zinc alloys, delete “2 to 4” and write “2 to 3”

Table C.1:

S Change values for pressure die casting zinc alloys, delete “B to D” and write “A to C”

FRENCH COMMENTS CONTINUED

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Guide pratique : Fonderie de précision à modèle perdu
SGFF - (mai 1990)

TABLEAU 1

Dimensions Linéaires (mm)			Encombrement*			Entr'axes**	
			T1	T2	T3	T1	T3
5 à 80	< 5	10	± 0.10	± 0.08	± 0.06	± 0.25	± 0.17
		15	0.12	0.10	0.06	0.25	0.17
		20	0.15	0.12	0.10	0.25	0.17
		25	0.20	0.15	0.10	0.25	0.17
		30	0.25	0.18	0.12	0.35	0.20
		40	0.30	0.20	0.15	0.35	0.20
		50	0.38	0.25	0.18	0.50	0.30
		65	0.45	0.30	0.20	0.50	0.30
		80	0.53	0.37	0.23	0.70	0.45
		100	0.60	0.45	0.28	0.70	0.45
100 à 180		120	0.70	0.55	0.30	0.90	0.60
		120	0.75	0.60	0.33	0.90	0.60
		140	0.85	0.65	0.36	1.15	0.85
		160	0.90	0.70	0.38	1.15	0.85
		180	1.00	0.80	0.42	1.15	0.85
200 à 450		200	1.10	0.90	0.44	1.80	1.00
		200	1.30	0.95	0.48	1.80	1.00
		225	1.45	1.05	0.52	1.80	1.25
		250	1.65	1.15	0.57	1.80	1.25
		280	1.85	1.25	0.64	1.80	1.25
		320	2.10	1.40	0.72	2.60	1.60
		375	2.40	1.60	0.80	2.60	1.60
		400	2.70	1.80	0.90	3.10	2.00
		450	3.00	2.00	1.00	3.10	2.00
		500	3.50	2.50	1.25	3.50	2.50

* Tolérances pour les longueurs, les largeurs et les hauteurs.

** Tolérances pour les entr'axes.

Tableau 1

Tolérances générales

Pièces coulées sous pression en alliages de zinc

Écarts admissibles ± mm

Diagonale	Précision	Qualité de tolérance TF	Cotes nominales														
			≤ 10	>10-18	>18-30	>30-50	>50-80	>80-120	>120-180	>180-250	>250-315	>315-400	>400-500	>500-630	>630-800	>800-1000	>1000-1250
≤ 50	Fine	10.5	0,036	0,044	0,052	0,065											
	Moyenne	11.5	0,080	0,070	0,085	0,10											
	Courante	12.5	0,090	0,11	0,13	0,16											
≤ 50 à 180	Fine	11.5	0,060	0,070	0,085	0,10	0,12	0,14	0,18								
	Moyenne	12.5	0,090	0,11	0,13	0,16	0,19	0,22	0,25								
	Courante	13	0,11	0,14	0,17	0,20	0,23	0,27	0,32								
≤ 180 à 500	Fine	12.5	0,080	0,11	0,13	0,16	0,18	0,22	0,25	0,29	0,32	0,36	0,39				
	Moyenne	13	0,11	0,14	0,17	0,20	0,23	0,27	0,32	0,36	0,41	0,45	0,49				
	Courante	13.5	0,14	0,17	0,21	0,25	0,29	0,34	0,40	0,45	0,50	0,56	0,60				
≤ 500 à 1 250	Fine	13	0,11	0,14	0,17	0,20	0,23	0,27	0,32	0,36	0,41	0,45	0,49	0,55	0,66	0,70	0,85
	Moyenne	13.5	0,14	0,17	0,21	0,25	0,29	0,34	0,40	0,45	0,50	0,56	0,60	0,70	0,80	0,90	1,0
	Courante	14	0,18	0,22	0,28	0,31	0,37	0,44	0,50	0,60	0,65	0,70	0,80	0,90	1,0	1,2	1,3

Japanese comments on document ISO/CD 8062-2(N 160)

Dec. 26, 1997
Japanesc National Committee
for ISO/TC 213/WG 9

Japanese National Committee for ISO/TC 213/WG 9 accept ISO/CD 8062-2. But we have some technical and editorial comments as follows.

1. General comment

Draft angles for castings shall be developed future revised version by ISO/TC 213/WG 9 because we need draft angles for castings with CT, MRA and CTG to specify by general tolerance system on drawings. This draft is not perfect standard. Therefore, each country experts start to research draft angles for castings.

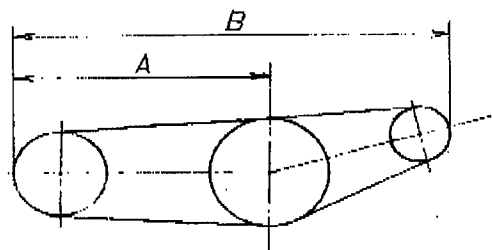
2. 4.3 Non-rigid parts

Clause 4.3 is not a group of tolerance grades. Clause 4.3 should be changed to new clause 5.

3. 9.1 General

In figure 5, largest overall dimension should be clearly indicated. Resolution 27(Copenhagen 3/19 97) of ISO/TC 213/WG 9 decided to agree on the Japanese comment No.10. This comment describe "Nominal dimension of clause 8.2(ISO 8062-1) clearly specify with figure."

Therefore, largest overall dimension should be clearly indicated in figure 5 which is largest overall dimension of A or B as following figure.



4. 10.2 Indication of machining allowances

Castings have non-machined parts. We should be described an example of indication method of non-machined parts by "Note" in this clause.

5. Annex E

The sentence "Arguments on delivery between the buyer and the supplier when exceeding the general tolerance must not lead to the rejection of the castings if the exceeding does not impair the ability to the function of the castings. "

6. Annex G

Column 2 in table 4 of GPS matrix should be included "location" because this standard specify symmetry tolerance.