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Replacing GB/T 972-1994

Thread rolling flat dies

搓丝板

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Thread rolling flat dies

1 Scope

This Standard stipulates the basic requirements for the type and size, profile size and deviation, technical requirements, marking and packaging of thread rolling flat dies for general purpose metric screw threads.

This Standard applies to thread rolling flat dies for processing general purpose metric screw threads (GB/T 192~193, GB/T 196~197). Thread rolling flat dies are divided into three precision grades: grade 1, grade 2 and grade 3. Grade 1 applies to the processing of external threads with tolerance grades 4 and 5; grade 2 applies to the processing of external threads with tolerance grades 5 and 6; grade 3 applies to the processing of external threads with tolerance grades 6 and 7.

2 Normative references

The terms in the following documents become the terms of this Standard by reference to this Standard. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this standard. However, parties to agreements that are based on this Standard are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this Standard.

GB/T 192, General purpose metric screw threads - Basic profile (GB/T 192-2003, ISO 68-1:1998, MOD)

GB/T 193, General purpose metric screw threads - General plan (GB/T 193-2003, ISO 261:1998, MOD)

GB/T 196, General purpose metric screw threads - Basic dimensions (GB/T 196-2003, ISO 724:1993, MOD)

GB/T 197, General purpose metric screw threads - Tolerances (GB/T 197-2003, ISO 965-1:1998, MOD)

3 Type and size of thread rolling flat dies

3.1 The type and size of thread rolling flat dies shall be as specified in Figure 1, as well as in Table 1, Table 2 and Table 3. The installation angle of the thread rolling flat dies for processing screw threads of d≤6 mm can also be made into 90°.

The thread rolling flat die of coarse pitch thread -- nominal diameter of processed thread 8 mm, pitch 1.25 mm, width 50 mm, fixed thread rolling flat die length 110 mm, precision grade 2, thread profile A: Thread rolling flat die AM8×50/110-2 GB/T 972-2008

The thread rolling flat die of fine pitch thread -- nominal diameter of processed thread 8 mm, pitch 1.00 mm, width 50 mm, fixed thread rolling flat die length 110 mm, precision grade 2, thread profile A: Thread rolling flat die AM8×1×50/110-2 GB/T 972-2008

Thread rolling flat dies for left screw threads shall be marked with “LH” after the precision.

4 Technical requirements

4.1 The surface of the thread rolling flat die must be free of cracks, nicks, rust, grinding burns and other defects that affect the performance.

4.2 The thread rolling flat die is made of 9SiCr or Cr12MoV alloy tool steel. The uniformity of carbides of Cr12MoV is not more than grade 3.

4.3 The deviation of dimensions L_D, L_G, and B shall be h14. The width difference between the fixed thread rolling flat die and the movable thread rolling flat die in a pair of thread rolling flat dies shall not be greater than 0.1 mm.

4.4 The surface roughness of the thread rolling flat dies is not greater than:

-- Thread profile surface: Rz 6.3 μm;

-- Supporting surface, device surface: Ra 0.8 μm.

4.5 The hardness of the working part of the thread rolling flat dies is 59HRC~62HRC; there shall be no decarburization and lower hardness on the working surface.

4.6 For the parallelism tolerance OF the intersection line between the plane perpendicular to the supporting surface of the thread rolling flat die and the crest plane TO the supporting surface, the width direction shall be in accordance with Table 5, and the length direction shall be in accordance with Table 6. When inspecting the parallelism of the crest of the thread rolling flat die to the supporting surface, the first complete profile on both sides of the width direction can be ignored. When inspecting the parallelism between the crest of the movable thread rolling flat die and the supporting surface, the range of the two ends of the length direction of the thread rolling flat die equal to the length (L) of the fixed thread rolling flat die’s pressed part can be ignored.

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