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GB/T 908-2019

Replacing GB/T 908-2008

Forged bars for dimensions, shape, weight and tolerances

锻制钢棒尺寸、外形、重量及允许偏差

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 908-2008 “Forged Bars - Dimensions, Shape, Weight and Tolerances”. Compared with GB/T 908-2008, main changes are as follows:

- maximum nominal diameter of round steel was increased from 400mm to 1000mm; maximum nominal side length of square steel was increased from 400mm to 1000mm; correspondingly added stipulations on allowable size deviation (see Table 1 of this Edition, Table 1 of Edition 2008);

- maximum nominal thickness of flat steel was increased from 160mm to 800mm; maximum nominal width was increased from 300mm to 1500mm; correspondingly added stipulations on allowable size deviation (see Table 2 of this Edition, Table 2 of Edition 2008);

- added stipulations on size, shape and allowable deviation of polished round steel (see Table 1 of this Edition);

- added stipulations on size, shape and allowable deviation of machined steel bar (see Table 3 of this Edition);

- tightened stipulations on curvature of steel bar (see 4.4 of this Edition, 2.5 of Edition 2008);

- added requirements for steel bar delivery with both ends sawing and stipulations on cutting slope (see Table 6 of this Edition);

- deleted marking examples (see Clause 4 of Edition 2008).

This Standard was proposed by China Iron and Steel Association.

This Standard shall be under the jurisdiction of National Technical Committee on Steels of Standardization Administration of China (SAC/TC 183).

The drafting organizations of this Standard: Northeast Special Steel Group Fushun Special Steel Co., Ltd., Xiwang Special Steel Company Limited, Metallurgical Industry Information Standards Institute.

Main drafters of this Standard: Gu Qiang, Yu Zongyang, Wang Yujie, Zhang Qingsheng, Chen Qingxin, Liu Baoshi, Li Wenshuang.

Versions of standard substituted by this Standard are:

- GB/T 908-1972, GB/T 908-1987, GB/T 908-2008;

Forged bars for dimensions, shape, weight and tolerances

1 Scope

This Standard specifies section shape, section size, weight and allowable deviation, length and allowable deviation, shape of forged bars (round steel, square steel, flat steel).

This Standard is applicable to forged round steel of which diameter is 40mm~1000mm, forged square steel of which side length is 40mm~1000mm and flat steel of which thickness is 20mm~800mm, width is 40mm~1500mm.

2 Classification

Forged bars, according to surface state of delivery, are classified into following three categories:

a) hot-forged bars: known as black skin; bars that are delivered in original surface (or through pickling, sandblasting);

b) polished steel bars: round bars of which surface is processed through grinding, that are delivered in metal gloss surface;

c) machined steel bars: bars of which surface is processed through lathing, milling and cutting, that are delivered in metal gloss surface.

3 Section shape

3.1 Section shapes of forged round steel and flat steel are shown as Figure 1.

according to allowable deviation of another nominal size.

Table 4 -- Size and allowable deviation of machined bars

mm

Section nominal size (diameter d, side length a or width t, thickness b)	Allowable size deviation
≤200	$^{+1.5}_{0}$
>200~400	$^{+2.0}_{0}$
>400	$^{+3.0}_{0}$

4.3 Length and allowable deviation

4.3.1 Generally, delivery length for forged bars shall not be less than 1500mm.

4.3.2 Short-foot forged bars of which length is not less than 1000mm are allowed to deliver. But their weights must not exceed 10% of total weight of this batch of delivery.

4.3.3 When delivered according to definite length, double length, its allowable length deviation is $^{+80}_{0}$ mm.

4.4 Shape

4.4.1 Hot-forged bars

4.4.1.1 Hot-forged round steel

4.4.1.1.1 Curvature of hot-forged round steel shall not exceed 4mm per meter. Total curvature shall not exceed 0.4% of total length.

4.4.1.1.2 Diameter difference of hot-forged round steel at one same section shall not exceed 0.7 times nominal diameter tolerance.

4.4.1.2 Hot-forged square steel

4.4.1.2.1 Curvature of hot-forged square steel shall not exceed 4mm per meter. Total curvature shall not exceed 0.4% of total length.

4.4.1.2.2 Diagonal difference of hot-forged square steel at one same section shall not exceed 0.7 times nominal side length tolerance.

4.4.1.2.3 Hot-forged square steel allows for slightly-rounded corners. However, distance between relative round corners (diagonal) shall not be less than 1.3

times nominal side length.

4.4.1.2.4 Hot-forged square steel shall not have significant torsion.

4.4.1.3 Hot-forged flat steel

4.4.1.3.1 Plane curvature of hot-forged flat steel per meter shall not exceed 4mm. Total plane curvature shall not exceed 0.4% of total length.

4.4.1.3.2 Side curvature (sickle bend) per meter of hot-forged flat steel shall not exceed 4mm. Total side curvature (sickle bend) shall not exceed 0.4% of total length.

4.4.1.3.3 Hot-forged flat steel allows for slightly-rounded corners. However, difference between lengths of two diagonals on one same section shall not exceed tolerance of nominal width.

4.4.1.3.4 Hot-forged flat steel shall not have significant torsion.

4.4.2 Polished bars

4.4.2.1 Curvature of polished round steel per meter shall not exceed 4mm. Total curvature shall not exceed 0.4% of total length.

4.4.2.2 Diameter difference of polished round steel at one same section shall not exceed 0.7 times nominal diameter tolerance.

4.4.3 Machined bars

4.4.3.1 Curvature of round steel and square steel per meter shall not exceed 2.5mm. Total curvature shall not exceed 0.25% of total length.

4.4.3.2 Plane curvature and side curvature (sickle bend) of flat steel shall not exceed 2.5mm per meter. Total curvature shall not exceed 0.25% of total length.

4.4.3.3 Fillet radius of square steel and flat steel shall not exceed 2.0mm.

4.4.3.4 Square steel and flat steel must not have significant torsion.

4.4.3.5 For square steel and flat steel, excluding both end faces, angular tolerance of other adjacent planes shall not exceed 2°.

4.4.4 Cutting slope of end face

4.4.4.1 Both end faces of forged bars shall be delivered in sawing.

4.4.4.2 Cutting slope of end face of forged bars shall comply with Table 5.

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