~~Designation:B897–03~~ Designation: B897 – 09

Standard Specification for ~~the~~ Configuration of Zinc and Zinc Alloy Jumbo Block and Half Block Ingot[1]

This standard is issued under the fixed designation B897; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope*

~~1.1This specification covers zinc and zinc alloy jumbo and block ingot meeting dimensional requirements.~~

~~1.2The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.~~

1.1 This specification covers zinc and zinc alloy jumbo, block, and half block ingot meeting dimensional requirements.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to become familiar with all hazards including those identified in the appropriate Material Safety Data Sheet (MSDS) for this product/material as provided by the manufacturer, to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 The following standards of the issue in effect on date of order acceptance, form a part of this specification to the extent referenced herein:

2.2 *ASTM Standards:*[2]

B6 Specification for Zinc

B852 Specification for Continuous Galvanizing Grade (CGG) Zinc Alloys for Hot-Dip Galvanizing of Sheet Steel

B899 Terminology Relating to Non-ferrous Metals and Alloys

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

3. Terminology

3.1 Terms shall be defined in accordance with Terminology B899.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *jumbo ingot*, *n*—large casting of zinc or zinc alloy, having through holes for chains, designed for handling by mechanical equipment, with a nominal weight of 2400 pounds, which is also referred to as a jumbo or strip jumbo.

3.2.2 *block ingot*, *n*—~~large casting of zinc or zinc alloy, having lift pockets, designed for handling by mechanical equipment, which is also referred to as a block.~~ —large casting of zinc or zinc alloy, having lift pockets, designed for handling by mechanical equipment, with a nominal weight of 2400 pounds, which is also referred to as a block.

3.2.3 *half block ingot*, *n*—large casting of zinc or zinc alloy, having lift pockets, designed for handling by mechanical equipment, with a nominal weight of 1200 pounds, which is also referred to as half block.

4. Ordering Information

4.1 Orders for jumbo, block, or half block ~~ingots, or both,~~ingots under this specification shall include the following information:

4.1.1 This specification number and date,

4.1.2 Quantity (weight),

~~4.1.3Name of material and grade, and the~~

[1] This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.04 on Zinc and Cadmium.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* ~~, Vol 02.04.~~volume information, refer to the standard's Document Summary page on the ASTM website.

***A Summary of Changes section appears at the end of this standard.**

~~4.1.4Type of ingot (Jumbo, Type 1 Block, or Type 2 Block),~~

4.1.3 Name of material and grade, and

4.1.4 Type of ingot (Jumbo, Type 1 Block, Type 2 Block, Half Block Type 1, or Half Block Type 2),

4.1.5 Order may stipulate dimensions, or tolerances, or both, not meeting this specification only upon mutual written agreement between purchaser and producer.

5. Materials and Manufacture

5.1 The producer shall use care to have each lot of zinc metal or zinc alloy jumbo, block or half block ingots be of as uniform quality as possible.

6. Dimensions, Mass, and Permissible Variations

~~6.1Jumbo Ingots~~

6.1 Jumbo Ingots:

6.1.1 Permissible variations in dimensions and tolerances for zinc or zinc alloy jumbo ingots shall be within the limits specified in Table 1 and Fig. 1 unless prior written agreement exists between purchaser and producer for nonstandard dimensions and tolerances.

6.1.2 Jumbo ingot weight shall be 2400 ±100 lbs (1089 ± 45 kg).

6.2 Block Ingots:

6.2.1 Permissible variations in dimensions and tolerances for zinc or zinc alloy block ingot shall be within the limits specified in Table 2 and Figs. 2 and 3 unless prior written agreement exists between the purchaser and producer for nonstandard dimensions and tolerances.

6.2.2 In addition to lift pockets in block ingots employed for ingot handling, smaller lift pockets are sometimes located on the ingot sides or ends and are employed to remove the ingot from the ingot mold during production and may be present at the discretion of the producer.

~~6.2.3Smaller "half height" block type ingots typically weighing 1200 lb (545 kg) are commonly used for casting and master alloy ingots.~~

6.3 Block ingot weight shall be 2400 ± 100 lbs (1089 ± 45 kg).

6.4 Smaller "half height" half block ingots typically weighing 1200 lbs (545 kg) are commonly used for casting and master alloy ingots.

6.4.1 Permissible variations in dimensions and tolerances for zinc or zinc alloy half block ingot shall be within the limits specified in Table 3 and Figs. 2 and 3 unless prior written agreement exists between the purchaser and producer for nonstandard dimensions and tolerances.

6.4.2 In addition to lift pockets in block ingots employed for ingot handling, smaller lift pockets are sometimes located on the ingot sides or ends and are employed to remove the ingot from the ingot mold during production and may be present at the discretion of the producer.

TABLE 1 Zinc Jumbo Ingot Specification

Weight 2400 ± 100 lbs (1089 ± 45 kg) Table of Dimensions					
Drawing Identification Letter	Dimension Definition	Dimension, in.		Dimension, mm	
		min	max	min	max
A	Top length	48.75	50.25	1238	1276
B	Bottom overall length[A]	46.00	48.00	1168	1219
C	Top width	19.25	20.25	489	514
0.5C	Center of pin hole to length edge	9.63	10.13	245	257
D	Bottom overall width[A]	16.50	18.50	419	470
E	Height[B]	11.75	13.25	298	337
F	Center of pin hole to end edge	5.75	6.75	146	171
G	Height of side fork slots	3.00	4.00	76	102
J	Upper width of side fork slot	5.50	8.00	140	203
K	Lower width of side fork slot	8.00	10.50	203	267
L	Top pin hole diameter	3.00	5.00	76	127
M	Bottom pin hole diameter[B]	4.50	6.50	114	165
N	Bottom center leg width	11.50	15.25	292	387
P	Upper width of end fork slot[B,C]	5.50	8.00	140	203
R	Lower width of end fork slot[C]	7.50	10.00	191	254
S	Lower outer leg(s) length	6.50	8.00	165	203
T	Height of end fork slot	3.00	4.00	76	102

[A] Dimensions with curved corners are measured by placing straight edges on both sides of the curve and using the intersecting point for the reference measurement.

[B] Minimum *P* dimension must be greater than the *M* dimension maximum.

[C] Minimum *R* dimension must be greater than the *P* dimension maximum.

TABLE 2 Zinc Block Ingot Specification

Weight 2400 ± 100 lbs (1089 ± 45 kg) Table of Dimensions					
Drawing Identification Letter	Dimension Definition	Dimension, in.		Dimension, mm	
		min	max	min	max
A	Top length	29.50	33.00	749	838
E	Bottom length	23.00	30.25	584	768
G	Top width	19.25	23.00	489	584
H	Bottom width	14.00	19.25	356	489
F	Height	18.50	23.50	470	597
C	Lower width of side fork slot	14.75	20.00	375	508
D	Lower leg length	2.25	4.25	57	108
B	Distance between lift pockets	21.75	28.25	552	718
J	Bottom fork slot height	2.50	3.50	64	89
N	Inside lift pocket width	3.50	6.50	89	165
P	Outside lift pocket width	4.00	8.50	102	216
K	Ingot end to lift pocket	0.00	3.25	0	83
M	Lift pocket depth	1.25	2.75	32	70
R	Ingot top to lift pocket	1.75	7.00	45	178

TABLE 3 Zinc Half Block Ingot Specification

Weight 1200 ± 50 lbs (545 ± 23 kg) Table of Dimensions					
Drawing Identification Letter	Dimension Definition	Dimension, in.		Dimension, mm	
		min	max	min	max
A	Top length	29.50	33.00	749	838
E	Bottom length	24.50	31.50	622	800
G	Top width	19.25	23.00	489	584
H	Bottom width	16.50	21.50	419	546
F	Height	11.00	14.00	279	355
C	Lower width of side fork slot	14.75	20.00	375	508
D	Lower leg length	2.25	4.25	57	108
B	Distance between lift pockets	19.50	28.25	495	718
J	Bottom fork slot height	2.50	3.50	64	89
N	Inside lift pocket width	3.00	6.50	76	165
P	Outside lift pocket width	4.00	8.50	102	216
K	Ingot end to lift pocket	0.00	3.25	0	83
M	Lift pocket depth	1.25	2.75	32	70
R	Ingot top to lift pocket	1.75	7.00	45	178
Q	NA Lift pocket can go to the bottom of ingot				

6.4.3 Half block ingot weight shall be 1200 ± 50 lbs (545 ± 23 kg).

7. Appearance

7.1 Jumbo, block, or half block ingots~~, or both,~~ shall be reasonably free from dross, cracks, adhering foreign matter, undue surface oxide, and any "flash" that would interfere with handling and use.

8. Product Marking

8.1 The producer's name or a brand name by which the producer can be identified shall be cast or stamped on each jumbo ingot.

8.2 Each jumbo, block or half block ingot shall be marked with the producer's heat, lot, or other identification mark.

8.3 Additional product marking (color code, etc.) will not be required unless agreed to by the purchaser and producer.

9. Keywords

~~9.1block ingot; jumbo ingot; zinc; zinc alloys~~