IS 1253 : 1992
(Reaffirmed 1996)

भारतीय मानक

लोहा और इस्पात निर्माण में प्रयुक्त एल्युमिनियम — विशिष्टि

(तीसरा पुनरीक्षण)

Indian Standard

ALUMINIUM FOR USE IN IRON AND STEEL MANUFACTURE — SPECIFICATION

(Third Revision)

UDC 669·71-436 : 669·17/18

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 1

FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Light Metals and Their Alloys Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1958 and subsequently revised in 1965 and 1980. In this revision following modifications have been made:

a) Scope has been enlarged to cover any other shape suitable for use in the manufacture of iron and steel,

b) A separate clause giving all the latest references has been added,

c) The clauses on chemical composition and chemical analysis have been modified,

d) Grades 1930 and 1970 have been redesignated as Grades 1 and 2 to avoid ambiguity with respect to IS 6051 : 1970, and

e) The requirement of test certificate for each consignment has been added.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

ALUMINIUM FOR USE IN IRON AND STEEL MANUFACTURE — SPECIFICATION

(Third Revision)

1 SCOPE

This standard covers the requirements for aluminium in the form of shot, notch bar and any other shape suitable for use in the manufacture of iron and steel.

2 REFERENCES

The Indian Standards listed below are necessary adjuncts to this Standard:

IS No.	*Title*
504 : 1963	Methods of chemical analysis of aluminium and its alloys (*revised*)
1817 : 1961	Methods of sampling non-ferrous metals for chemical analysis
1820 : 1979	Recommended shapes, sizes and mass of aluminium notched bars and ingots for remelting purposes (*first revision*)
10259 : 1982	General condition of delivery and inspection of aluminium and aluminium alloy products

3 SUPPLY OF MATERIAL

General requirement relating to the supply of aluminium for use in iron and steel manufacture shall conform to IS 10259 : 1982.

4 GRADES

4.1 Two grades of aluminium, namely, Grade 1 and Grade 2 are covered in this standard.

4.2 Aluminium Grade 1 is normally suitable for use in the manufacture of mild steel and low alloy steels, whereas aluminium Grade 2 is normally required for manufacture of alloy steels and special steels.

5 FREEDOM FROM DEFECTS

The aluminium shall be of uniform quality, free from dross, slag and other harmful contamination. The surface shall be free from heavy oxidized layer.

6 CHEMICAL COMPOSITION

6.1 The aluminium shall conform to the composition of one of the two grades specified in Table 1.

6.2 The chemical analysis of the aluminium shall be carried out in accordance with IS 504 : 1963 or by any other instrumental/chemical method. In case of dispute the methods specified in IS 504 : 1963 shall be the referee method.

7 SIZES AND SHAPES

7.1 Shot

The aluminium shall be supplied in pea-size of approximately 5 to 10 mm diameter.

7.2 Notched Bar

The shape and size of notched bar may be as given in IS 1820 : 1979.

7.3 Any other shape suitable for use in manufacture of iron and steel.

Table 1 Chemical Composition

(*Clause* 6.1)

Constituent	Grade 1 Percent	Grade 2 Percent
Aluminium, *Min*	93·0	97·0
Impurities		
Copper, *Max*	4·5	2·0
Zinc, *Max*	1·0	0·5
Magnesium, *Max*	1·0	0·5
Tin, *Max*	—	0·2
Arsenic, *Max*	—	0·2
Bismuth, *Max*	—	0·2
Total of copper, zinc, magnesium, silicon and iron, *Max*	7·0	—
Total of copper, zinc, magnesium, silicon, iron, tin, arsenic and bismuth, *Max*	—	3·0

8 SAMPLING

8.1 For chemical analysis, one sample shall be taken for each cast or every 1 000 kg or part thereof, of the aluminium.

8.2 Samples shall be drawn and prepared in accordance with IS 1817 : 1961.

8.3 In case of shot, the sample shall be melted and chill cast in the shape of bar of thickness 6 mm (approximate).

9 MARKING

9.1 Each notch bar/any other shape or the container in case of shots shall be suitably marked with the following details:

a) Cast/lot number,

b) Grade of aluminium, and

c) Indication of the source of manufacture.

9.2 Standard Marking

Each notch bar/any other shape or the container in case of shots may also be marked with the Standard Mark.

10 TEST CERTIFICATE

Each consignment shall be supplied along with a certificate giving the cast/lot number, grade and related chemical composition of aluminium.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	331 01 31 331 13 75
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	37 84 99, 37 85 61, 37 86 26, 37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	53 38 43, 53 16 40, 53 23 84
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	235 02 16, 235 04 42, 235 15 19, 235 23 15
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) BOMBAY 400093	632 92 95, 632 78 58, 632 78 91, 632 78 92

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