

INTERNATIONAL STANDARD 3335

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Extruded solid profiles in aluminium-zinc-magnesium alloy Al Zn4,5 Mg1 (7020) – Chemical composition and mechanical properties

Profils pleins en alliage aluminium-zinc-magnésium Al Zn4,5 Mg1 (7020) – Composition chimique et caractéristiques mécaniques

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FOREWORD

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3335 was developed by Technical Committee ISO/TC 79, *Light metals and their alloys*, and was circulated to the member bodies in February 1977.

It has been approved by the member bodies of the following countries :

Belgium	Italy	South Africa, Rep. of
Chile	Japan	Sweden
Czechoslovakia	Mexico	Switzerland
Egypt, Arab Rep. of	Netherlands	Turkey
France	Norway	United Kingdom
Germany	Poland	U.S.A.
India	Portugal	Yugoslavia
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No member body expressed disapproval of the document.

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Extruded solid profiles in aluminium-zinc-magnesium alloy Al Zn4,5 Mg1 (7020) – Chemical composition and mechanical properties

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the chemical composition and the minimum mechanical properties of extruded solid profiles made in aluminium-zinc-magnesium alloy corresponding to the designation Al Zn4,5 Mg1, in agreement with ISO/R 2092. (The designation 7020 is also commonly used for this alloy.)

2 REFERENCES

ISO/R 190, *Tensile testing of light metals and their alloys.*

ISO/R 2092, *Light metals and their alloys – Code of designation.*

ISO/R 2107, *Light metals and their alloys – Temper designations.*

ISO/R 2142, *Wrought aluminium and aluminium alloys – Selection of specimens and test pieces.*

ISO 5191, *Light metals and their alloys – General inspection and delivery requirements.*¹⁾

3 REQUIRED CHARACTERISTICS

3.1 Chemical composition

The chemical composition shall be as given in table 1.

3.2 Mechanical properties

The minimum values of the mechanical properties, for products in the temper conditions as defined in ISO/R 2107, are given in table 2.

TABLE 1 – Chemical composition, %

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Zr	Ti + Zr	Other elements		Al
										individual	total	
min.	–	–	–	0,05	1,0	0,10	4,0	0,08	0,08	–	–	balance
max.	0,35	0,40	0,20	0,50	1,4	0,35	5,0	0,20	0,25	0,05	0,15	

TABLE 2 – Longitudinal mechanical properties

Shape	Temper	Thickness mm	R_m N/mm ²	$R_{p0,2}$ N/mm ²	A % min. on	
					$5,65 \sqrt{S_0}$	50 mm (2 in)
Solid profiles	TF, TE	3,0 to 30	350	290	10	8

R_m : tensile strength

$R_{p0,2}$: 0,2 % proof stress

A : elongation

S_0 : original cross-sectional area

TF : solution heat treated and precipitation treated

TE : cooled from an elevated temperature shaping process and precipitation treated.

1) In preparation.