
International Standard



7722

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Aluminium alloy castings produced by gravity, sand, or chill casting, or by related processes — General conditions for inspection and delivery

Pièces moulées en alliages d'aluminium par gravité, en sable ou en coquille ou par des procédés connexes — Conditions générales de contrôle et de livraison

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7722 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*.

Aluminium alloy castings produced by gravity, sand, or chill casting, or by related processes — General conditions for inspection and delivery

1 Scope and field of application

This International Standard specifies the general conditions for inspection and delivery of aluminium alloy gravity, sand, and chill castings and aluminium alloy castings made by related processes.

It specifies the conditions for ordering, and the conditions for producing, testing and accepting castings.

It applies to all aluminium alloy gravity castings, in particular those the chemical and mechanical properties of which are defined in ISO 3522.

2 References

ISO 2092, *Light metals and their alloys — Code of designation based on chemical symbols.*

ISO 2378, *Aluminium alloy chill castings — Reference test bar.*

ISO 2379, *Aluminium alloy sand castings — Reference test bar.*

ISO 2859, *Sampling procedures and tables for inspection by attributes.*

ISO 3134/4, *Light metals and their alloys — Terms and definitions — Part 4: Castings.*

ISO 3522, *Cast aluminium alloys — Chemical composition and mechanical properties.*

ISO 6506, *Metallic materials — Hardness test — Brinell test.*

ISO 6892, *Metallic materials — Tensile testing.*

3 Control levels

3.1 General

The intended use of the castings defines the minimum level of control to be prescribed by the customer, selected from the three categories defined in 3.2, 3.3 and 3.4.

If the level of control is not specified on ordering, the founder shall apply the minimum level of control (Type 3).

The control level defines the nature of the tests (see table 1) and their minimum frequency (see 10.2.2, 10.2.6 and table 2).

This choice will have an effect on the testing costs and the selected level shall be clearly stated when bids are invited and confirmed when ordering.

3.2 Type 1 control

This control relates to castings where the internal soundness and mechanical properties have to be verified. Internal soundness is the property of a metal which is free from faults such as porosity, cavities or detrimental discontinuities with regard to intended use. The level of internal soundness shall be defined by common agreement between the founder and the purchaser, on pre-production castings for example.

- a) Metal control: chemical analysis of the bath and in some cases control of mechanical properties on separately cast test pieces.
- b) Castings control: shape and dimensions; internal soundness verified by generally non-destructive tests; mechanical properties of the castings are controlled either on the castings themselves or on cast-on test pieces or cut test pieces.
- c) Batch composition: the batch consists of castings:
 - of the same alloy;
 - defined by the same drawing;
 - issued from the same cast¹⁾ and from the same charge of heat treatment.

3.3 Type 2 control

This control relates to castings for which the internal soundness and mechanical properties, although desirable, are not subjected to compulsory checks.

- a) Metal control: chemical analysis of the bath and control of mechanical properties on separately cast test pieces, except in special cases referred to in note 6 of table 1.

1) The definition of "cast" shall be agreed upon between the founder and the customer, taking account of the production equipment of the foundry.