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Agricultural irrigation equipment — Aluminium irrigation tubes

Matériel agricole d'irrigation — Tubes d'irrigation en aluminium



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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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Agricultural irrigation equipment — Aluminium irrigation tubes

1 Scope

This International Standard specifies minimum required properties and test methods for aluminium tubes intended for use in agricultural irrigation systems for the transport of water, at temperatures not exceeding 50 °C, for irrigation purposes.

It applies to hand-moved and towed tubes, and to tubes intended for stationary or temporary installation.

It does not apply to tubes with integrated couplings, which will be the subject of a future International Standard.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 209-1:1989, *Wrought aluminium and aluminium alloys — Chemical composition and forms of products — Part 1: Chemical composition*.

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 alclad tube; clad tube: Tube having on both inside and outside surfaces a metallurgically bonded aluminium or aluminium alloy coating which is anodic to the core material and which, therefore, protects the core from corrosion.

3.2 average outside diameter of aluminium tube: Arithmetic mean of two mutually perpendicular outside diameters, measured at one cross-section.

3.3 average wall thickness of tube: Arithmetic mean of eight measurements of wall thickness, equally spaced around the circumference of one cross-section, but not on the weld line in the case of welded tubes.

3.4 denting factor: Parameter calculated as the product of the minimum tensile yield strength, in megapascals, and the square of the wall thickness of the tube, in millimetres, divided by the nominal diameter, in millimetres, in evaluating the ability of an aluminium tube to withstand external mechanical loading without permanent local deformation.

3.5 nominal diameter of tube, D_{nom} : Conventional numerical designation approximately equal to the outside diameter of an aluminium tube.

3.6 nominal pressure, PN: Maximum working pressure at which a piping component is stated to operate under normal service conditions.