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Plastics pipes and fittings — Decohesion test of polyethylene (PE) saddle fusion joints — Evaluation of ductility of fusion joint interface by tear test

Tubes et raccords en matières plastiques — Essai de décohésion des selles en polyéthylène (PE) assemblées par soudage — Évaluation de la ductilité de l'interface de soudage par essai d'arrachement

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13956 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

Plastics pipes and fittings — Decohesion test of polyethylene (PE) saddle fusion joints — Evaluation of ductility of fusion joint interface by tear test

1 Scope

This International Standard specifies a method for the evaluation of the ductility of the fusion joint interface of assemblies of polyethylene (PE) pipe and electrofusion or heated tool saddles, intended for the conveyance of fluids.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 11413, *Plastics pipes and fittings — Preparation of test piece assemblies between a polyethylene (PE) pipe and an electrofusion fitting*

3 Principle

A load is applied to the saddle of an assembly of an electrofusion or heated tool saddle fused on to a pipe.

The ductility of the fusion joint interface is characterized by the appearance of the failure in the fusion plane and by the determination of the percentage of decohesion.

4 Apparatus

4.1 General

The test apparatus shall comprise a tensile equipment type A1 or A2, as indicated in Figures 1 and 2 respectively, or a compressive equipment type B as indicated in Figure 3. For nominal outside pipe diameter $\geqslant$ 250 mm, equipment type C as indicated in Figure 4 may be used.

4.2 Tensile test equipment — Type A1 or A2

The tensile equipment shall include the following main parts.

4.2.1 Tensile testing machine, capable of maintaining a speed of (100 $\pm$ 10) mm/min, with sufficient force to separate the saddle from the pipe.

4.2.2 Loading pin, with an outside diameter of at least 1/2 of the nominal outside diameter of the pipe and allowing rotation.