International Standard 8180

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Ductile iron pipes — Polyethylene sleeving

Canalisations en fonte ductile — Manche en polyéthylène

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

International Standard ISO 8180 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*.

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Ductile iron pipes — Polyethylene sleeving

1 Scope and field of application

This International Standard specifies the characteristics of polyethylene film, commonly called sleeving and used as additional protection against corrosion of ductile iron pipelines particularly when laid in aggressive soil conditions.

This film, the efficiency of which has been proved by experience, takes the form of a sheet or tube and is fitted around the pipes on site immediately before pipe laying.

2 References

ISO 1133, *Plastics — Determination of the melt flow rate of thermoplastics.*

ISO/R 1183, *Plastics — Methods for determining the density and relative density (specific gravity) of plastics excluding cellular plastics.*

3 Material

3.1 Characteristics

The material used for making the film is polyethylene or a mixture of polyethylenes and/or ethylene and olefin copolymers.

Its density shall be between 910 and 930 kg/m^3.

The method of determining the density of polyethylene shall be in accordance with ISO/R 1183.

Its melt flow index shall be not greater than 2,5 g/600 s, measured in accordance with ISO 1133.

3.2 Additives and impurities

If protection against ultra-violet rays is required, the material shall be stabilized by the addition of an appropriate product; if carbon black is used for this purpose the addition shall be in the range of 2 to 3 % by mass.

The addition of antioxidants is permitted but shall be not greater than 0,5 % by mass.

Any impurities in the polymer shall be less than 0,1 % by mass.

The product shall not contain any plasticizers or fillers.

3.3 Regenerated or re-worked products

The use of regenerated products is not permitted.

The use of re-worked products free from dirt from the film manufacturer's own production is permitted as long as the same type of original product is used and that the films thus manufactured meet the requirements of this International Standard.

4 Sleeving

4.1 Appearance

The film shall not have holes, splits, punctures, perforations or any other detrimental faults, which affect its strength or impermeability.

4.2 Dimensions

4.2.1 Width

The nominal flat width of the tube or flat sheet is specified in national standards or in the manufacturers' catalogues.

4.2.2 Thickness

The nominal thickness of the sleeving shall be not less than 200 µm.

The negative tolerance on the nominal thickness shall not exceed 10 %.

If necessary, it is permitted to use thicker sleeving or double sleeving.

5 Mechanical properties

5.1 Tensile strength

The tensile strength of the film in the longitudinal and transverse directions shall be not less than 8,3 MPa.

5.2 Elongation

The elongation at fracture of the film in the longitudinal and transverse directions shall be not less than 300 %.

6 Storage and transportation

The sleeving shall be suitably packaged and protected by the manufacturer for transportation and storage.

When the sleeving is stored prior to use it shall be sheltered from direct sunlight.

7 Conditions of use and fitting

For determining when polyethylene sleeving is required and also the method of fitting, the user should refer to appropriate national specifications or the manufacturers' catalogues.