INTERNATIONAL STANDARD ISO 3459

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

Polyethylene (PE) pressure pipes — Joints assembled with mechanical fittings — Internal under-pressure test method and requirement

Tubes sous pression en polyéthylène (PE) — Assemblages avec raccords mécaniques — Essai d'étanchéité à la dépression intérieure et caractéristiques requises

First edition — 1976-10-15

UDC 621.643.29 : 678.742.2 : 620.162.4

Ref. No. ISO 3459-1976 (E)

Descriptors : piping, plastic pipes, pressure pipes, pipe fittings, polyethylene, tests, low-pressure tests, gas-tightness tests, water-tightness tests.

Price based on 2 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 3459 was drawn up by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids,* and circulated to the Member Bodies in June 1974.

It has been approved by the Member Bodies of the following countries :

Australia	Ireland	Spain
Austria	Israel	Sweden
Belgium	Italy	Switzerland
Chile	Mexico	Turkey
Czechoslovakia	Netherlands	United Kingdom
Denmark	Norway	U.S.A.
Finland	Poland	U.S.S.R.
France	Portugal	Yugoslavia
Germany	Romania	
India	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

Printed in Switzerland

Polyethylene (PE) pressure pipes — Joints assembled with mechanical fittings — Internal under-pressure test method and requirement

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the requirement and method of test for checking the leakproofness of assembled joints (excluding fusion-welded joints) between mechanical fittings and polyethylene (PE) pressure pipes when the external pressure is greater than the pressure within the pipe. The test applies regardless of the design and material of the fitting used for jointing polyethylene pipes and applies to pipe with nominal outside diameter up to and including 63 mm (2.480 in).

2 REQUIRED CHARACTERISTICS

The test shall be carried out at two levels of difference between the external and internal pressures of 0,01 and 0,08 MPa (0,1 and 0,8 bar). The joint shall remain leakproof for at least 1 h, at each test pressure.

3 PRINCIPLE OF TEST

Checking of the leakproofness of an assembled joint full of air under atmospheric pressure when submitted to external hydraulic pressure greater than the atmospheric pressure within the pipe.

4 APPARATUS

(A suitable apparatus is shown in the figure.)

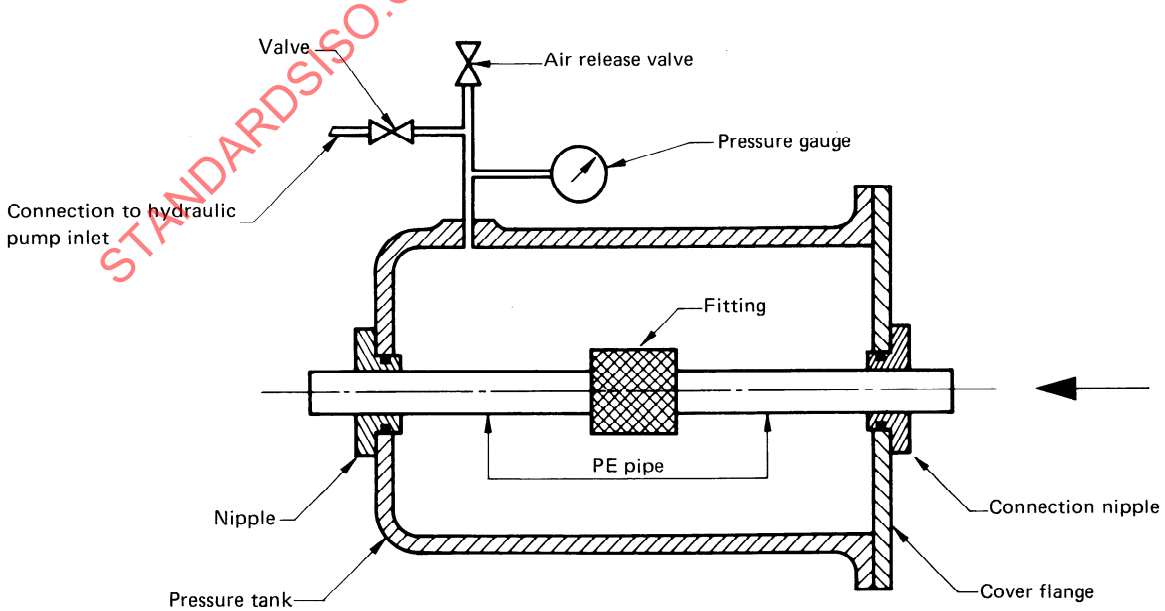
4.1 Enclosed tank capable of being used at the appropriate test pressures and receiving the test specimen. The ends of the test specimen shall pass through the walls of the tank, so that the inside of the pipe is open to the atmosphere. The assembly shall be arranged so as to enable any leakage to be detected within the test specimen.

4.2 Device, connected to the water-tank, capable of producing and maintaining a water pressure of :

a) $0{,}01 \, ^{+\,0{,}005}_{0}$ MPa $\left(0{,}1 \, ^{+\,0{,}05}_{0} \text{ bar}\right)$

b) $0{,}08 \pm 0{,}005$ MPa $(0{,}8 \pm 0{,}05$ bar)

4.3 Pressure gauge fitted to the test tank for checking the test pressure.



The apparatus must permit a clear view through the test specimen.

FIGURE — **Diagram of suitable apparatus**