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GUIDE SPECIFICATION FOR LØGSTØR RØR POLYETHYLENE CASED PRE-INSULATED PIPEWORK

For the distribution of:

- **Low/Medium Temperature Hot Water**
- **Heating**
- **Chilled Water**
- **High Temperature Hot Water/Steam**

The **Løgstør Rør** pre-insulated distribution system shall consist of a composite bonded, insulated, jacketed pipework system, composed of steel or copper service pipe, polyurethane rigid foam thermal insulation, encased in a high density polyethylene jacket.

As supplied by:

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General

All **Løgstør Rør** products and corresponding materials are to meet with the requirements, where relevant, as stated in the EN 253 and associated standards, published by the CEN (European Committee for Standardisation). The features are to include the following:



Steel Pipes and Fittings

Pre-Insulated pipes and pipe fittings are to be identification marked when delivered. Copies of quality control certificates, X-ray reports and test certificates are to be made available to order.

DN 25 - DN 600 steel pipes are to consist of longitudinally or resistance welded tubes according to DIN 1626:1984 or seamless tubes according to DIN 1629:1984 of material St. 37.0, SS 1312 or similar according to DIN 17100.

Cold-pulled bends of steel SIS 141330-05, -06 or corresponding material are to be used for pipe fittings where possible. Welded bends are to be of steel SIS 141330 or corresponding material. Tee-pieces are to be manufactured of a steel quality at least equivalent to St. 37,0, SIS 141330 or corresponding material. Material wall thickness is to be selected in such a way that the Tee-pieces are as strong as the straight pipes.

CFC-Free Polyurethane Insulation

CFC-free polyurethane insulation is to be used in all tubes and fittings. The insulation shall have good thermal insulating qualities, excellent mechanical properties and excellent ageing resistance, including the following features:

Number of closed cells:	Minimum:	88%
Water absorption when boiled:	Maximum:	10%
Compression strength:	Minimum:	300 kPa
Thermal conductivity @ 50°C:		0.030 W/mK
Maximum continuous operating temperature:	140°C	

Jacket Pipe

The jacket pipe is to be made of high-density polyethylene (HDPE) and is to be manufactured to DIN 8075 or be directly extruded.

The material has to be stabilised against thermal, chemical, oxidising and other kinds of decomposition, ie. must fulfil the technical/functional requirements stated in EN 253.

The impact and wear strengths are to be very high, even at low temperatures.

The material is to be suitable for welding and is very resistant to stress corrosion cracking. The thickness of material is to be in accordance with international standards.

Alarm System

All **Løgstør Rør** straight lengths and fittings are to be delivered with an alarm system with two alarm wires. The monitoring equipment is to use the well tried and tested water conductivity method to sense the presence of water within the foam filled annular space around the steel pipe using two bare wires for sensing and locating. The system is to use a low frequency, very low power, AC signal to sense both loop continuity and conductivity,

When an Alarm or Fault condition has been detected the relevant LED is to be illuminated - in addition an output relay is to be provided that can either de-activate or activate associated equipment. (**Note:** the relay shall have voltage free contacts rated at 1A at 30 volts DC or 0.3A at 150 volts AC - the relay is supplied so that the alarm may be connected into a Building Management System or any other associated plant).

Installation

Welded joints in prefabricated pipe sections (bends, Tee-pieces, valves) are to be ultrasonically inspected on a 10% random sample basis.