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## GUIDE SPECIFICATION FOR LØGSTØR RØR POLYETHYLENE CASED PRE-INSULATED COPPER PIPEWORK

For the distribution of:

- **Low/Medium Temperature Hot Water**
- **Heating**

The **Løgstør Rør** pre-insulated distribution system shall consist of a composite bonded, insulated, jacketed pipework system, composed of 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:



## **Copper Pipes**

DN 15 - DN 88 Copper Pipes are manufactured in accordance with DIN 1787/17671, corresponding to SIS 5015-02.

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

## **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 **Logstør 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).