



TEST REPORT

Product:

Logstor pre insulated flexible corrugated district heating pipe 2×20/110 mm
AluFlextra with polyol H2130/80 produced at Logstor, Denmark

Carried out for:

Logstor A/S
Danmarksvej 11
DK-9670 Løgstør
Denmark

Date:

March 21, 2013

Contact person:

Niels Winther

Order no.:

519762

Testing was carried out in accordance with:

EN 15632-1:2009



TEST Reg. No. 300



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TEST REPORT

Date: March 21, 2013
Order no.: 519762
Initials: nhwn

Requested by:

Logstor A/S
Danmarksvej 11
DK-9670 Løgstør
Denmark

On the conditions stated overleaf testing was performed of the following product(s):

Logstor pre insulated flexible corrugated district heating pipe 2×20/110 mm
AluFlextra with polyol H2130/80 produced at Logstor, Denmark

in compliance with the test specifications:

EN 15632-1:2009

with the following results:

Maximum ovality of casing: 0,9 %
Maximum crack in insulation: 0 mm

Conditions:

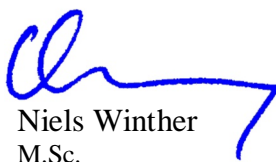
Testing was carried out on the conditions stated overleaf in compliance with the guidelines laid down for the Laboratory by DANAK (Danish Laboratory Accreditation Scheme) and in compliance with the Danish Technological Institute's General Terms and Conditions regarding Commissioned Work Accepted by the Danish Technological Institute, August 1999.

The test results apply to the tested products only.

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Division/centre: Energy and Climate
Installation and Calibration

Signature:


Niels Winther
M.Sc.



DANAK (Danish Accreditation)

DANAK was established in 1991 in pursuance of the Danish Act No. 394 of 13 June 1990 on the promotion of Trade and Industry.

The requirements to be met by accredited laboratories are laid down in the Danish Agency for Trade and Industry (Erhvervsfremme Styrelsens) Statutory Order on accreditation of laboratories to perform testing etc. and GLP inspection. The Statutory Order refers to other documents in which the criteria for accreditation are specified further.

The standards DS/EN ISO/IEC 17025 "General requirements concerning the competence of testing and calibration laboratories" and DS/EN 45002 "General criteria for the assessment of testing laboratories" describe fundamental criteria for accreditation. DANAK uses guidance documents to clarify the requirements in the standards, where this is considered to be necessary. They will mainly be drawn up by the "European co-operation for Accreditation (EA)" or the "International Laboratory Accreditation Co-operation (ILAC)" with a view to obtaining uniform criteria for accreditation worldwide. In addition, DANAK draws up Technical Regulations concerning specific demands on accreditation that are not included in the standards.

In order to obtain accreditation it is i.a. required:

- that the laboratory and its personnel are not subject to any commercial, financial or other types of pressure which might influence their technical judgement,
- that the laboratory operates a documented quality control system,
- that the laboratory has technical equipment, facilities and premises of a certain standard at its disposal in order to carry out the service it is accredited to perform,
- that the laboratory management and personnel have technical competence and practical experience in the performance of the service the laboratory is accredited to perform,
- that the laboratory has established guidelines for traceability and uncertainty calculations,
- that accredited testing or calibration is performed in accordance with fully validated and documented methods,
- that the laboratory keeps records which contain sufficient information to permit the repetition of the accredited test or calibration,
- that the laboratory is subject to supervision carried out by DANAK on a regular basis,
- that the laboratory shall take out an insurance, which covers liability in connection with the performance of accredited services.

Reports carrying DANAK's logo are used when reporting accredited services and show that they have been performed in accordance with the rules concerning accreditation.

Unofficial translation for

DANAK, Technical guidelines
No. RL 4 of 20 June 2001



Requested by:	Logstor A/S	Date of sample receiving:	March 14, 2013			
Contact person:	Tina Thomsen	Period of ageing:	-			
Telephone no.:	+45 40 90 11 03	Period of testing:	March 21, 2013			
Fax no.:	+45 99 66 11 80	Date of simulation:	-			
E-mail:	tit@logstor.com	Date of reply:	March 21, 2013			
Place of testing:	DTI, Aarhus, Denmark	Single pipe test	-	Audit test	-	
Test performed by:	Niels Winther	Twin pipe test	X	Indicative test	-	
Certificate no.:	270-A-1056, 270-A-1437	Type test	-	Retest	-	
Marking:	-	Project test	-	Aged	-	
Test outline	Appendix	Requirements met		Accredited		Subcontractor accreditation no.
		Yes	No	Yes	No	
Logstor pre insulated flexible corrugated district heating pipe 2x20/110 mm AluFlextra with polyol H2130/80 produced at Logstor, Denmark	-	X	-	X	-	-

