MPA NRW.
Material Testing Bureau North-Rhine Westphalia
Testing - Monitoring - Certifying

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General Building Inspection Certificate

Certificate number:	**P-MPA-E_13-006**
Certification object:	Pipe covers of fire resistance classes R 90 as per Building Rules List A Part 3 ff. no. 2.5 (version 2013/2) according to DIN 4102-11 (version 12/1985), for leading HENCO PE-Xc/Al/PE-Xc multilayer pipes and HENCO RIXc multilayer pipes as heating pipes or water supply pipes in closed, water-containing systems through solid walls, solid ceilings or lightweight partition walls featuring at least the same fire resistance period.
Applicant:	Henco Industries NV Toekomstlaan 27 B-2200 Herentals (BELGIUM)
Issue date:	December 13,.2013
Validity:	till December 12, 2018

Based on the present general building inspection certificate, the above-mentioned building product is applicable as defined by the State Building Code.
The validity of this general building inspection certificate presumes the validity of the proofs of usability with regard to the building products used for the fabrication of the building product.
This general building inspection certificate comprises 8 pages.

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1. Certification object and field of application

1.1 Certification object

1.1.1

The general building inspection certificate is valid for the production and application of pipe covers of fire resistance class R 30 to R 120 for leading combustible pipes through solid walls, solid ceilings or lightweight partition walls featuring at least the same fire resistance period.

1.1.2

The pipe cover system consists of an aluminium-coated pipe shell in mineral fibre insulation and the plastic multilayer pipes. For detailed information, see section 2.

1.2 Field of application

1.2.1

The pipe cover system can be used for leading combustible pipes denominated as HENCO PE-Xc/Al/PE-Xc multilayer pipe and HENCO RIXc multilayer pipe through solid walls, solid ceilings or lightweight partition walls with at least the same fire resistance period. It can only be used for leading through plastic pipes as heating pipes or water supply pipes in closed, water-containing systems.

1.2.2

The installation in solid walls, solid ceilings or lightweight partition walls being described in this general building inspection certificate does not cover the following risks:

- fire propagation due to heat transportation via the media incorporated in the piping;
- destruction of the adjacent space separating construction elements (walls, ceilings) as well as of the piping itself, insofar as it is not covered by the described construction;
- leakage of hazardous fluids or gases due to destructed piping under fire conditions.

These risks are to be considered when installing the piping (layout of fixed points or planning of required dilatation possibilities).

1.2.3

The applicant declares that the components used in the certification object do not contain any products covered by the Ordinance on Hazardous Substances, the Ordinance on Banned Chemicals or the Ordinance on Banned CFCs and Halons. He also declares that all the regulations related to said Ordinances (especially the labelling obligation) are met.

Furthermore, the applicant declares that insofar as measures concerning hygiene, health protection and environmental protection are to be taken when selling, bringing into circulation or using the product, he will arrange for them to be taken resp. publicise them in an appropriate manner.

Consequently, the inspection bureau did not consider it necessary to test possible health and environmental effects of the certification object.

2. Design specifications

The pipe cover system of fire resistance class R 30 to R 120 must be designed according to the following specifications.

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2.1 Pipes

The dimensions of the pipes for the system of fire resistance class R 30 to R 120 are mentioned in the table below. The pipes concerned are the inflammable multilayer pipes named
HENCO PE-Xc/Al/PE-Xc multilayer pipe and
HENCO RIXc multilayer pipe (PE-Xc/Al/PE-Xc multilayer pipes with a reduced intermediate aluminium layer). The pipes must correspond to building material class B 2 in accordance with DIN 4102 Part 1 or class E in accordance with DIN EN 13501- 1.
According to the classification report no. 194296 dated March 9, 2011 that was issued by the notifying inspection bureau no. 0833, Exova Warringtonfire, Holmesfield Road, Warrington, WA1 2DS, United Kingdom, said pipes have been classified as class E in accordance with EN 13501-1:2007+A1: 2009.
The present general building inspection certificate is valid for the pipe dimensions stated in the following table 1.

Table 1: Pipe dimensions

Pipe type / denomination	Outer diameter / mm	Wall thickness s / mm
Plastic multilayer pipe „HENCO PE-Xc/AUPE-Xc"	16	2
	18	2
	20	2
	26	3
	32	3
	40	3.5
	50	4
	63	4.5
	75	6
Plastic multilayer pipe „HENCO RIXc"	16	2
	18	2
	20	2
	26	3

2.2 Pipe cover

A pipe shell consisting of mineral fibre insulation made by Rockwool, named ”Rockwool 800", featuring an aluminium lamination (building material class DIN EN 13501-1 $A2_L$-sl, dO in accordance with the general building inspection approval no. Z-23.14-1114) has to be used as pipe cover.
The following table 2 states which pipe shell’s insulation thickness correlates with which pipe.

Table 2: Correlation of pipes with cover type

Outer pipe diameter	Pipe cover insulation thickness from... to...
16 - < 32	20 mm - 50 mm
> 32 - 75	30 mm - 50 mm

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2.3 Installation

2.3.1 Ceiling installation

The pipe covers may be installed in solid ceilings made of concrete or cellular concrete having a gross density of > 550 kg/m³ and a thickness of ≥ 150 mm.

In combination with the inserted pipes, the pipe covers mentioned in table 2 may be led through existing openings in the solid ceilings with a minimal intermediate distance of 0 cm.

In case of solid construction elements, the cavities between the pipe shells and the soffits of the construction element must be filled throughout with an inflammable product which is resistant to deformation (building material class in accordance with DIN 4102-2 or EN 13501-1) such as concrete, cement mortar or gypsum mortar.

2.3.1 Wall installation

The pipe covers may be installed in

- walls made of brickwork, concrete or cellular concrete (solid walls) having a gross density of > 450 kg/m^3 and a thickness of ≥ 100 mm. In case of solid construction elements the cavities between the pipe shells and the soffits of the construction elements must be filled throughout with an inflammable product which is resistant to deformation (building material class in accordance with DIN 4102-2 or EN 13501-1) such as concrete, cement mortar or gypsum mortar.

- lightweight partition walls having a thickness of ≥ 100 mm in post-and-lintel construction type with an underlying steel frame (internal insulation of at least 40 mm thick mineral fibre, insulation boards, building material class A, density ≥ 100 kg/m3, melting point ≥ 1000 kg/m3, air gap between insulation and panelling ≤ 10 mm) and two-sided panelling in gypsum plasterboard fire protection boards of fire resistance class F 90 in accordance with DIN 4102-4, table 48.

- partition walls having a thickness of ≥ 100 mm in post-and-lintel construction type with an underlying steel frame (internal insulation of at least 40 mm thick mineral fibre, insulation sheets, building material class A, density ≥ 100 kg/m3, melting point ≥ 1000 kg/m3, air gap between insulation and panelling ≤ 10 mm) and two-layered panelling on both sides made of non-combustible cement- or gypsum-bound construction boards (building material class DIN 4102-A), provided the fire resistance class F 90 has been certified by a general building inspection certificate.

In case of partition walls having a proven fire resistance class of F 90 with or without an inner mineral fibre insulation (gross density of the insulation < 100 kg/m^3, melting point ≤ 1000°C or air gap between insulation and panelling > 10 mm), the soffit of the construction element opening must be covered all around (frame flush with the wall) in correspondence to the wall panelling construction or with at least 12.5 mm thick construction boards (GKF-, gypsum fibre or calcium silicate boards in accordance with DIN 4102-A).

In case of a lightweight partition wall, the residual gap (gap width of 1 - 5 cm) to the covers must be filled with loose mineral wool (melting point ≤ 1000 °C, apparent density approx. 100 kg/m^3) and a subsequent trowel application of gypsum filler in a panel thickness or in a cavity-filling manner over the total wall thickness.

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2.3.1 Execution

With regard to wall lead-throughs as well as ceiling lead-throughs, the total length of the pipe covers mentioned in table 2 should be at least 500 mm for pipes having a diameter of ≤ 32 mm, and at least 1000 mm for pipes having a diameter of > 32 mm.

In particular, the gores between the pipe covers installed directly next to each other must be filled completely, too.

Asymmetric insulation - ceiling installation:

With regard to HENCO PE-Xc/Al/PE-Xc - multilayer pipes having a diameter of ≤ 32 mm and HENCO RIXc multilayer pipes having a diameter of ≤ 26 mm, the 500 mm long insulating shell passing the building element may be arranged asymmetrically. (One side of the insulating shell can be positioned flush to the upper or lower ceiling side.)

Asymmetric insulation - wall installation:

With regard to HENCO PE-Xc/Al/PE-Xc - multilayer pipes having a diameter of ≤ 32 mm and HENCO RIXc multilayer pipes having a diameter of ≤ 26 mm, the 500 mm long insulating shell passing the building element may be arranged asymmetrically. (One side of the insulating shell can be positioned flush to the upper or lower wall side.)

The insulated pipes may be led through the wall horizontally or vertically to each other without any distance.

The pipes may pass the ceiling or wall only at a right angle.

The first point of suspension or support should be located on both sides of the wall ≤ 550 mm from the wall surface.

In addition, at approx. every 200 mm the insulating shells should be wrapped with a steel binding wire having a diameter of ≥ 0.8 mm.

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Table 3: Correlation of the fire resistance period with the pipe diameter and position of the insulation

Wall installation

Pipe type	Outer diameter (mm)	Insulation length (mm)	Simple lead-throughs		Multiple lead-throughs			
			Position of insulation		Without intermediate distance			
			Symmetrical	Asymmetrical	Horizontal		Vertical	
					Symmetrical	Asymmetrical	Symmetrical	Asymmetrical
HENCO PE-Xc/Al/PE-Xc	16	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	18	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	20	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	26	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	32	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	40	≥ 1000	R 120	- -	R 120	- -	R 90	- -
	50	≥ 1000	R 120	- -	R 120	- -	R 90	- -
	63	≥ 1000	R 120	- -	R 120	- -	R 90	- -
	75	≥ 1000	R 120	- -	R 120	- -	R 90	- -
HENCO RIXc	16	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	18	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	20	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30
	26	≥ 500	R 120	R 30	R 120	R 30	R 90	R 30

Ceiling installation

Pipe type	Outer diameter (mm)	Insulation length (mm)	Simple lead-throughs		Multiple lead-throughs	
			Insulation position		Without intermediate distance	
			Symmetrical	Asymmetrical	Symmetrical	Asymmetrical
HENCO PE-Xc/Al/PE-Xc	16	≥ 500	R 120	R 30	R 120	R 30
	18	≥ 500	R 120	R 30	R 120	R 30
	20	≥ 500	R 120	R 30	R 120	R 30
	26	≥ 500	R 120	R 30	R 120	R 30
	32	≥ 500	R 120	R 30	R 120	R 30
	40	≥ 1000	R 120	- -	R 120	- -
	50	≥ 1000	R 120	- -	R 120	- -
	63	≥ 1000	R 120	- -	R 120	- -
	75	≥ 1000	R 120	- -	R 120	- -
HENCO RIXc	16	≥ 500	R 120	R 30	R 120	R 30
	18	≥ 500	R 120	R 30	R 120	R 30
	20	≥ 500	R 120	R 30	R 120	R 30
	26	≥ 500	R 120	R 30	R 120	R 30

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3. Proof of conformity

The certification object mentioned in the present general building inspection certificate requires the proof of conformity as stipulated in the Building Rules List A, Part 3, no. 5. Subsequently, a manufacturer's (entrepreneur's) declaration of conformity is to be issued.
The entrepreneur manufacturing the pipe cover system must provide the customer with a written declaration of conformity, confirming that the pipe cover system manufactured by him does indeed correspond with the provisions of the present general building inspection certificate.

4. Legal basis

This general building inspection certificate is issued pursuant to § 22 of the Building Code for North-Rhine Westphalia (BauO NW) dd. March 1, 2000 in combination with the Building Rules List A, part 3, no. 2.5, version 2013/2. The Building Codes of the other federal states contain similar legal principles.

5. Information on legal remedies available

Complaints against this general building inspection certificate can be submitted to the Verwaltungsgericht Gelsenkirchen (= Administrative Court), Bahnhofsvorplatz 3, 45879 Gelsenkirchen (GERMANY) within one month after its announcement. The complaint should state the petitioner, the defendant and the object of the complaint and should also comprise a specific request. Facts and evidence must be stated for motivational purposes and the contested decision (original or copy) must be attached. Copies destined for the other parties involved should be attached to the complaint.

6. General information

6.1

The general building inspection certificate proves the usability of the building product/applicability of the design as defined by the State Building Codes.

6.2

The general building inspection certificate does not replace the legally required permits, approvals and certificates for the realisation of the building project.

6.3

The general building inspection certificate is issued without prejudice to the rights of third parties, in particular to trademark rights.

6.4

The manufacturer and distributor of the building element must provide the user with copies of the general building inspection certificate without prejudice to further provisions in the 'Special Provisions". They must also advise the user of the fact that the general building inspection certificate must be available at the site. Copies of the general building inspection certificate are to be provided to the concerned authorities.

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6.5
The test reports this general building inspection certificate was based on were mentioned by the client.

6.6
The general building inspection certificate may only be copied integrally. A partial publication requires the approval of the Material Testing Bureau NRW. Texts and drawings in advertising brochures must not contradict the general building inspection certificate. Translations of the general building inspection certificate must be marked “Translation of the German original document which has not be revised by the Material Testing Bureau NRW”.

6.7
The general building inspection certificate is issued revocably. The provisions of the general building inspection certificate can be extended or amended retroactively, especially when required due to technical findings.

Erwitte, December 12, 2016
On behalf of

Signature: Dipl.-Ing. Frank Diekmann
(Head of the Testing Bureau)

Signature: Dipl.-Ing. Frank Diekmann
(Official in charge)

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Model of a

DECLARATION OF CONFORMITY

- Name and address of the company that manufactured the pipe cover

- Construction site or building

- Production date

We herewith confirm that the pipe cover system « HENCO PE-Xc/Al/PE-XC – multilayer pipe and HENCO RIXc with Rockwool 800 insulation » of fire resistance class R 30 up to R 120 has been produced and installed in compliance with the general building inspection certificate P-MPA-E-13-006 issued by the Material Testing Bureau of North-Rhine Westphalia (GERMANY) on December 13, 2016.

On the basis of

- the existing marking of the elements in according with the provisions of the general building inspection certificate *
- own inspections *
- corresponding written confirmations by the manufacturers of the building elements or components attached to his own files by the undersigned *,

this also applies to the building products and components which were not manufactured by the undersigned himself.

Place, date Stamp and signature

(This confirmation is to be delivered to the principal, who will transfer it to the appropriate building control authority.)

* Delete as applicable