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Designated according to Article 29 of Regulation (EU) No 305/2011

Member of www.eota.eu

European Technical Assessment

ETA 14/0055
of 19/2/14

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:	
Trade name of the construction product	**Nullifire Seal Bags**
Product family to which the construction product belongs	Fire Stopping and Sealing Product Penetration Seals
Manufacturer	**Nullifire / Tremco Illbruck** Coupland Rd Hindley Green Wigan WN2 4HT
Manufacturing plant(s)	E055
This European Technical Assessment contains	11 pages including 3 Annex(es) which form an integral part of this assessment.
	Annex(es) A - C Contain(s) confidential information and is/are not included in the European Technical Assessment when that assessment is publicly available.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	ETAG 026, edition 2011, used as European Assessment Document (EAD)

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General Comments

1. This European Technical Assessment is issued by Warrington Certification Limited on the basis of ETAG 026 Fire Protective Products Part 1: General June 2013, and Part 2: Fire Stopping and Fire Sealing Products Aug 2011, Used as European Assessment Document.

2. This European Technical Assessment is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1.

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1 SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical Description of the Product

(Detailed information and data are given in Annexes)

1) Nullifire Seal Bags are a compressible combination of reactive and non-reactive components, encased in a thin woven glass fibre casing used to reinstate the fire resistance performance of wall constructions where they have been provided with apertures for the penetration of single or multiple services.

2) Nullifire Seal Bags is a dry system and does not require the use of any sealant or sealing products

3) The Nullifire Seal Bags are supplied in three different sizes referenced B760- (330mm x 200mm x 45mm), B761- (330mm x 200mm x 25mm) and B762- (330mm x 50mm x 20mm), a mixture of which may be utilized to obtain a tight compression

4) Installation of the Nullifire Seal Bags – See 6.2

Internal use- ETAG 026-2 (used as European Assessment Document EAD) Type Z_1.

2 Specification Of The Intended Use In Accordance With The Relevant EAD

2.1 Intended Use

The intended use of Nullifire Seal Bags is to reinstate the fire resistance performance of rigid wall constructions where they are penetrated by various cables and metallic pipes

1) The specific elements of construction that the system Nullifire Seal Bags may be used to provide a penetration seal in, are as follows:

Rigid walls: The wall must have a minimum thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m^3.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

2) The Nullifire Seal Bags may be used to provide a penetration seal with pipes and cables (for details see Annex C).

3) The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

4) The system Nullifire Seal Bags may be used to seal apertures in the separating element up to 1100mm wide by 1100mm high dependant on the configuration. The minimum permitted separation between adjacent seals/apertures is 200mm.

5) Pipes must be installed singular, cables require no minimum separation.

6) Services in walls shall be supported at maximum 250mm from the face of the separating element.

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7) The provisions made in this European Technical Assessment are based on an assumed working life of the S Line Pillows of 10 years, provided that the conditions laid down in sections 4.2/5.1/5.2 for the packaging/transport/ storage/installation/use/repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

2.2 Use Category

Type Z_1: Intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0°C, without exposure to rain or UV.

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3. Performance Of The Product And References To The Methods Used For Its Assessment

The assessment of fitness for use has been made in accordance with EOTA ETAG 026 Part 2: 2011-08-08 (used as European Assessment Document, EAD)

ETAG Clause No.	ETA Clause No.	Characteristic	Assessment of characteristic
		Mechanical resistance and stability	Not relevant
		Safety in case of fire	**See Clause 2.1**
2.4.1	3.1	Reaction to fire	**Class F according to EN 13501-1**
2.4.2	3.2	Resistance to fire	**See clause 2.2 & Annex C**
		Hygiene, Health and the Environment	
2.4.3	3.3	Air permeability	**See clause 2.3**
2.4.4	3.4	Water permeability	No performance determined
2.4.5	3.5	Dangerous substances	**See clause 2.5**
		Safety in use	
2.4.6	3.6	Mechanical resistance and stability	No performance determined
2.4.7	3.7	Resistance to impact/movement	No performance determined
2.4.8	3.8	Adhesion	No performance determined
		Protection against noise	No performance determined
2.4.9	3.9	Airborne sound insulation	**Rw ($C;C_{tr}$)= 33(0;-2)**
		Energy, Economy and Heat Retention	
2.4.10	3.10	Thermal properties	No performance determined
2.4.11	3.11	Water vapour permeability	No performance determined
		General aspects relating to fitness for use	
2.4.12	3.12	Durability and serviceability	**Z_1**

3.1 Reaction to fire

System Nullifire Seal Bags is classified '**F'** in accordance with EN 13501-1.

3.2 Resistance to fire

System Nullifire Seal Bags has been tested in accordance with BS EN 1366-3: 2009 based upon the test results and the field of direct application specified within EN 1366-3: 2009, the system Nullifire Seal Bags has been classified in accordance with EN 13501-2, as given in Annex C:

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The seals may only be penetrated by the services described in Annex C; other parts or support constructions must not penetrate the seal.

The service support construction must be fixed to the building element containing the penetration seal or a suitable adjacent building element, in such a manner that in the case of fire, no additional load is imposed on the seal. Furthermore it is assumed that the unexposed face support is maintained for the required period of fire resistance.

Certain pipe and cable configurations should be insulated with minimum 300mm long, 6mm thick Thermal Defence Wrap, or Nullifire Seal Bags to provide additional insulation to the pipes. See Annex C

Pipes must be perpendicular to the seal surface.

It is assumed that compressed air systems are switched off by other means in the case of fire.

The function of the pipe seal in case of pneumatic dispatch systems, pressurised air systems etc. is guaranteed only when the systems are shut off in case of fire.

The assessment does not cover the avoidance of destruction of the seal or of the abutting building element(s) by forces caused by temperature changes in case of fire. This has to be considered when designing the piping system.

The approval does not address any risks associated with leakage of dangerous liquids or gases caused by failure of the pipe(s) in case of fire.

The durability assessment does not take account of the possible effect of substances permeating through the pipe on the penetration seal.

3.3 Air permeability

System Nullifire Seal Bags has been tested in accordance with BS EN 1314-1 to provide the following results:

Product tested				
	Results under positive chamber pressure		Results under negative chamber pressure	
Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)
50	2.5	13.9	3.1	17.2
100	4.1	22.8	5.6	31.1
150	5.8	32.2	7.4	41.1
200	7.2	40.0	8.9	49.4
250	8.7	48.3	10.3	57.2
300	9.8	54.4	11.1	61.7
450	13.4	74.4	15.3	85.0
600	17.5	97.2	18.6	103.3

3.4 Water permeability

No performance determined

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3.5 Dangerous substances

Nullifire has presented a declaration that Nullifire Seal Bags does not contain any substance of high concern with regards to REACH Regulations and are compliant with the requirements reference to http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm

Confirmation has further been declared that all dangerous chemical substances ≥1.0 % w/w as well as all toxic, carcinogenic, toxic for reproduction and mutagenic chemical substances ≥ 0.1 % w/w (Status: 29. adaption – 2004/73/EG – of the EU directive 67/548/EEC - classification, packaging and labeling of dangerous substances) are stated in the Nullifire Seal Bags safety data sheets (according to91/155/EEC including amendments) and have been considered for the classification of the products according to the directive 1999/45/EG (classification of preparations, including amendments).

All dangerous chemical substances are below the classification limits of67/548/EEC.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

3.6 Mechanical resistance and stability

No performance determined.

3.7 Resistance to impact/movement

No performance determined.

3.8 Adhesion

Not relevant.

3.9 Airborne sound insulation

The results of the test provided the following single number rating:

Rw (C;Ctr)= 33(0;-2)

3.10 Thermal Propeties

No performance determined.

3.11 Water vapour permeability

No performance determined.

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3.12 Durability and serviceability

Nullifire Seal Bags has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006, for the type Z_1 use category specified in ETAG 026-3 (used as European Assessment Document, EAD), and the results of the tests have demonstrated suitability for penetration seals intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0^{o}C, without exposure to rain or UV.

4 Assessment And Verification Of Constancy Of Performance (Hereinafter AVCP) System Applied, With References To Its Legal base

According to the decision 1999/454/EC of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the Regulation (EU) No 305/2011) given in the following table apply:

Products	Intended uses	Level or Class	System
Fire stopping and fire sealing products	For fire compartmentation and/or fire protection or fire performance	Any	System 1

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5. Technical Details Necessary For The Implementation Of The AVCP System, As Provided For In The Applicable EAD.

Tasks for the Manufacturer

Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European technical assessment.

The manufacturer may only use constituent materials stated in the technical documentation of this European technical assessment.

The factory production control shall be in accordance with the Control Plan of 31.10.13 relating to the European technical assessment ETA 14/0055 which is part of the technical documentation of this European technical assessment. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at Warrington Certification Limited.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

Other tasks of manufacturer

Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Services for which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. cable trays)
- Limits in size, minimum thickness etc. of the penetration seal
- Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.

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(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting.

Tasks of approved bodies

The approved body shall perform the

— initial type-testing of the product,

— initial inspection of factory and of factory production control,

— continuous surveillance, assessment and approval of factory production control,

In accordance with the provisions laid down in the "Control Plan" of 28.10.13 relating to the European Technical Assessment 14/0055.

The approved body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical assessment.

In cases where the provisions of the European technical assessment and its "Control Plan" are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform the Warrington Certification Limited without delay.

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Signatories



Responsible Officer

C. Abbott* - Principal Certification Engineer



Approved

A. Kearns* - Technical Manager

* For and on behalf of Warrington Certification Limited.

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Annex A

Reference Documents and LIST OF ABBREVIATIONS

References to standards mentioned in the ETA:

EN 13501-1	Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
EN 13501-2	Fire classification of construction products and building elements – Part 2: Classification using test data from fire resistance tests

Other reference documents:

EOTA TR 024	Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products
ETAG No. 026: Part 2	Guideline For European Technical Approval of Fire Stopping and Fire Sealing Products, Part 3: Penetration Seals (used as European Assessment Document, EAD)

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Annex B

Description of Product and Product Literature

Nullifire Seal Bags

A detailed specification of the product is contained in document "Evaluation Report" relating to the European Technical Approval ETA – 14/0055 issued on 13/12/13, of Nullifire Seal Bags which is a non-public part of this ETA.

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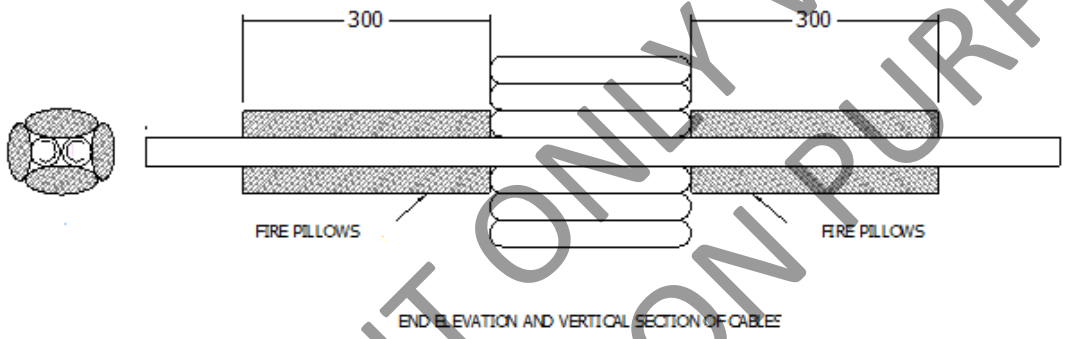
Annex C

Resistance to Fire Classification of Nullifire Seal bags

C.1.1 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.1.2 Penetration seal with Nullifire Seal Bags installed 75mm projection from each face of the wall

Construction details: Electrical cables. Additional Nullifire Seal Bags to be sewn to provide additional protection to the cable to minimum distance of 300mm either face of the seal



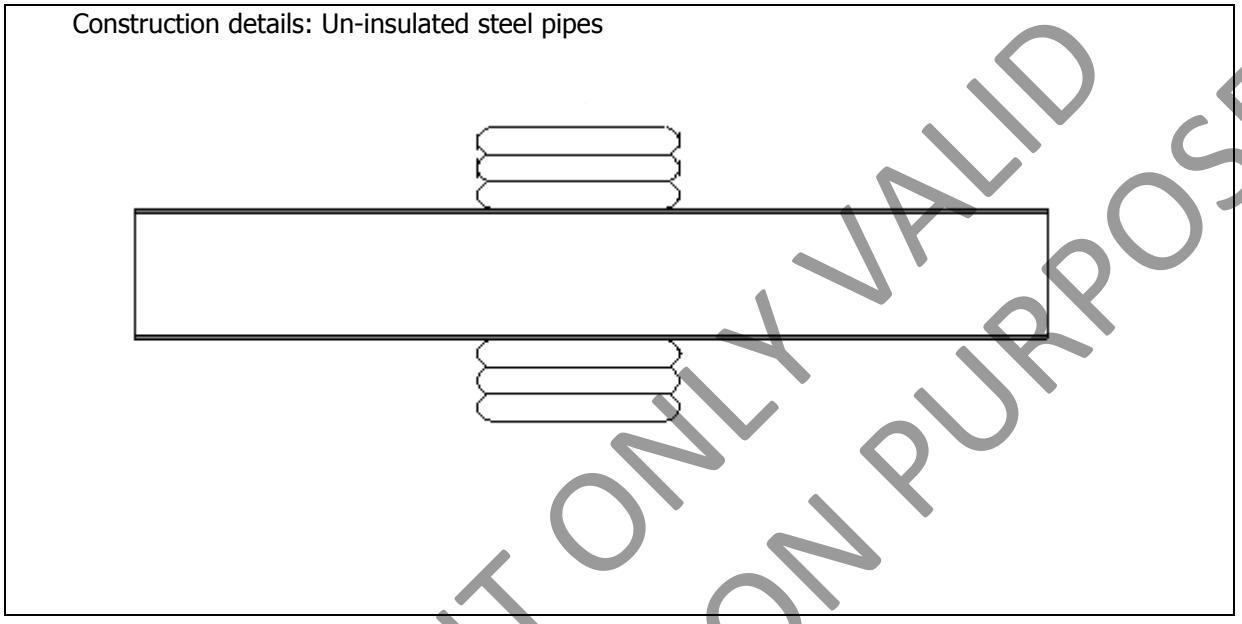
C.1.3

Nullifire Seal Bags Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	**Classification**
Telecom cables up to 21mm Ø (single or bundles up 100 mm Ø)	**EI 120**
Electrical cables up to 21 mm Ø	**EI 120**
Electrical cables up to 50 mm Ø	**E 120, EI90**
Electrical cables up to 80 mm Ø	**E120, EI 90**
Unsheathed wires up to 24 mm Ø	**EI 120**
Steel or Copper conduits and tubes up to 16 mm Ø	**EI 120**
Plastic (any) conduits and tubes up to 16 mm Ø	**EI 120**
Cable trays or ladders up to 300 mm wide	**E 120, EI 60**

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C.2 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.2.2 Penetration seal with Nullifire Seal Bags installed 75mm projection from each face of the wall



C.2.3

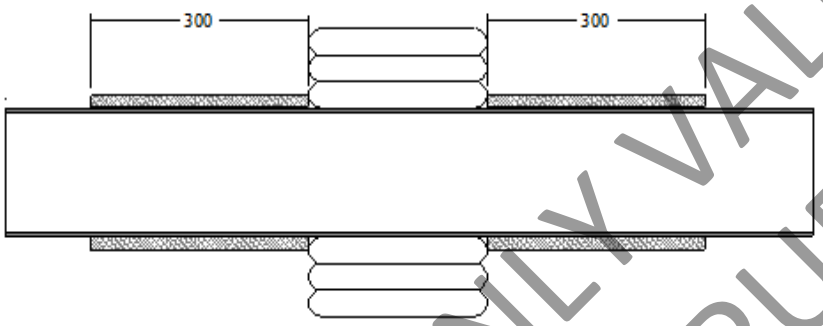
Nullifire Seal Bags Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	**Classification**
165 mm Ø x 5.6-14.2 mm thick mild steel pipe	**E 120 C/U**

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C.3 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.3.2 Penetration seal with Nullifire Seal Bags installed 75mm projection from each face of the wall

Construction details: Insulated steel pipe with Nullifire TD Wrap



C.3.3

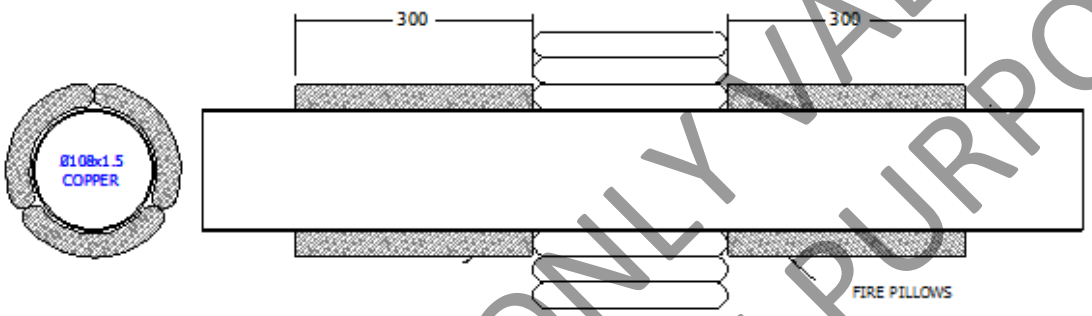
Nullifire Seal Bags Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	**Classification**
48mmØ x 3.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Nullifire TD Wrap 7mm thick	**EI 120 C/U**
113mmØ x 4.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Nullifire TD Wrap 10mm thick	**EI 120 C/U**

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C.4 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.4.2 Penetration seal with Nullifire Seal Bags installed 75mm projection from each face of the wall

Construction details: Insulated steel pipe with Nullifire Seal Bags stitched to the perimeter of the pipes



C.4.3

Nullifire Seal Bags Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	**Classification**
108 mm Ø x 1.5-14.2 mm thick copper pipe	**E 120 C/U, EI 90 C/U**

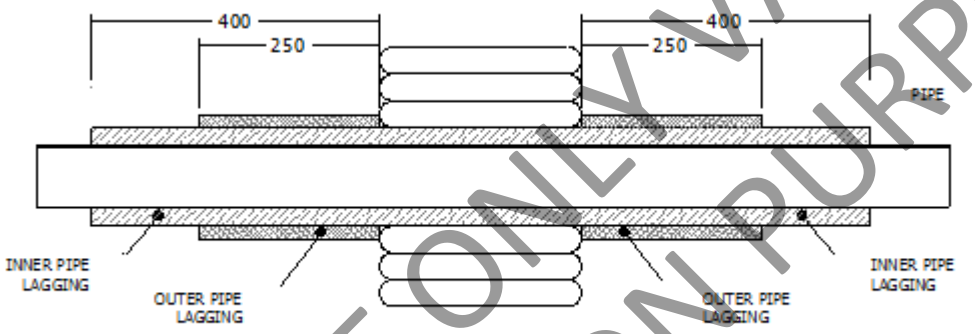
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C.5 Rigid wall constructions according to 1.2.1 with wall thickness of minimum 150 mm

C.5.2 Penetration seal with Nullifire Seal Bags installed 75mm projection from each face of the wall

Construction details: Insulated steel pipe 2 layers of insulation

1st layer 15mm thick/400 mm Local Sustained (LS) Armaflex AF 15mm thick
2nd layer 250 mm Local Interrupted (LI) Nullifire TD Wrap 10mm thick



C.5.3

Nullifire Seal Bags Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	**Classification**
54mmØ x 1.0-14.2mm thick copper pipe with 2 layers of insulation	**EI 120**

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