

## DOCUMENTATION

### SINTEF 030-0207

With reference to the Norwegian building regulations, revised 1997-06-13, with the belonging guidance of 1997-01-22, revised April 2003, we document, on the basis of test certificates and evaluations, that this product meets the requirements of the Norwegian authorities as to the fire related qualities.

**Building materials:**     **FIRESAFE heat expanding sealing compound**

**Product responsible:**   **Firesafe as**  
                                  **P.O. Box 6411 Etterstad, 0605 Oslo, Norway**

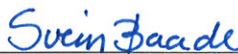
The documentation is conditional on that the product is in accordance with the specifications given in the appendix and that the products is applied and used in accordance with regulations and all important details in this process follow precisely what is described in a user instruction, which is checked, accepted, stamped and signed by SINTEF NBL as. Both the user instruction and the SINTEF Documentation shall follow the product or be available for the purchaser, user, inspector and the local authority.

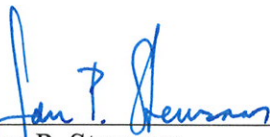
The product shall be labeled with **SINTEF 030-0207**, trade name, product responsible and/or manufacturer together with a reference to the production for traceability. The labeling shall have good visibility.

The product must have at least one annual, external inspection related to the internal system for control of quality. The inspection is adjusted to the type of product and other existing inspection arrangements. Details specified in a written agreement with NBL.

First issued 2005-12-01. A renewal may be issued based on a written application. Termination by the applicant shall be asked for in writing and with 6 months notice. SINTEF NBL as may withdraw this documentation when irregularities or misuse happens and written instructions are not respected.

Issued: 2008-01-03  
Valid until: 2010-12-08

  
\_\_\_\_\_  
Svein Baade  
Section manager documentation

  
\_\_\_\_\_  
Jan P. Stensaas  
Research scientist

**This document is an English version of the Norwegian documentation SINTEF 030-0207 dated 2005-12-08.**

**Appendix 1 for documentation SINTEF 030-0207 dated 2008-01-03.**
**Sealing of joints and small penetrations**

**Trade name:** FIRESAFE sealing compound heat expanding

**Manufacturer:** Intumex GmbH

**Description:** Heat expanding sealing compound for use in connect with penetration systems or joint seals.

**Application and fire resistance:** Penetration sealing systems with width of joints: 10 mm - 25 mm.

Max dimension:	Depth of joint:	Min. thickness of fire partition:	Fire resistance*:
<i>Penetration of steel pipes:</i>			
Steelpipe ø110 mm <sup>1)</sup>	15 mm two sided	Gypsum/concrete wall: 150 mm	120 minutes
		Gypsum/concrete wall: 120 mm	60 minutes
Steelpipe ø50 mm <sup>2)</sup>	15 mm two sided and insert of rock wool	Gypsum/concrete wall: 120 mm Concrete floor: 150 mm	120 minutes
<i>Penetration of plastic pipes:</i>			
PVC-pipe ø110 mm	25 mm two sided and insert of rock wool	Gypsum/concrete wall: 150 mm Concrete floor: 200 mm	120minutes
		Gypsum/concrete wall: 120 mm Concrete floor: 150 mm	60 minutes
PP, PE, PVC-pipe ø50 mm	20 mm two sided and insert of rock wool	Gypsum/concrete wall: 150 mm Concrete floor: 150 mm	120 minutes
		Gypsum/concrete wall: 120 mm	90 minutes
		Gypsum/concrete wall: 100 mm Concrete floor: 120 mm	60 minutes
5 Plastic cable conduit ø50 mm in bundle.	25 mm two sided and insert of rock wool	Concrete wall/floor: 100 mm Gypsum wall: 120 mm	60 minutes
7 Plastic cable conduit ø20 mm in bundle.	25 mm two sided and insert of rock wool	Concrete wall/floor: 100 mm Gypsum wall: 120 mm	60 minutes
10 Plastic cable conduit ø16 mm in bundle.	25 mm two sided and insert of rock wool	Concrete wall/floor: 100 mm Gypsum wall: 120 mm	60 minutes
<i>Penetration of cables:</i>			
Ø35 mm (4x70 mm <sup>2</sup> )	60 mm two sided	Concrete wall/floor: 200 mm	240 minutes
36 ø15 mm (5x2,5 mm <sup>2</sup> ) in bundle.	20 mm two sided and insert of rock wool	Gypsum/concrete wall: 120 mm	120 minutes
36 ø15 mm (5x2,5 mm <sup>2</sup> ) in bundle.	20 mm and backing of rock wool	Concrete floor: 150 mm	120minutes
<i>Penetration of channels:</i>			
300 x 300 mm <sup>3)</sup> / ø315 mm <sup>3)</sup>	15 mm two sided and insert of rock wool	Gypsum/concrete wall: 150 mm Concrete floor: 200 mm	120 minutes
		Gypsum/concrete wall: 120 mm Concrete floor: 150 mm	60 minutes
600 x 600 mm <sup>3)</sup> / ø600 mm <sup>3)</sup>	15 mm two sided and insert of rock wool	Concrete wall/floor: 200 mm	90 minutes
<i>Sealing of joints and splits:</i>			
Joint width ≤ 100 mm	15 mm two sided and insert of rock wool	Gypsum/concrete wall: 120 mm Concrete floor: 150 mm	120 minutes


\* Satisfies functional requirements with respect to temperature and integrity.


- 1) Continuously insulated  $\geq 1000$  mm on both sides with 30 mm mineral wool (density  $\geq 40$  kg/m<sup>3</sup>).
- 2) Continuously insulated  $\geq 200$  mm on both sides with 25 mm mineral wool (density  $\geq 90$  kg/m<sup>3</sup>).
- 3) Insulated with 70 mm rock wool (density  $\geq 100$  kg/m<sup>3</sup>) in full length on both sides, or other documented channel insulation with the same resulting fire resistance.

**Basis of tests****and test reports:**

Test report: 4007072 dated 2004-05-07 according to prEN 1366-3 from Applus Certification Technological Center.  
Test report: Pr-03-02.056 av 2003-05-30 according to prEN 1366-3 and 4. from PAVUS a.s.  
Test report: 92R12298 dated 1993-04-08 and 93 R12394A of 1993-09-17 according to ISO 834 from SP Testing and Research Institute of Sweden.  
Test report: G 10137 a and b dated 1996-09-11 according to prEN 1366-3:1993 from DBI - The Danish Institute of Fire and Security Technology.

**Issued: 2008-01-03**

  
Svein Baade  
Section manager documentation

  
Jan P. Stensaas  
Research scientist