Efectis Nederland BV
P.O. Box 554 | 2665 ZN Bleiswijk
Brandpuntlaan Zuid 16 | 2665 NZ Bleiswijk
The Netherlands
+31 88 3473 723
nederland@efectis.com

CLASSIFICATION

CLASSIFICATION OF FIRE RESISTANCE PERFORMANCE IN ACCORDANCE WITH EN 13501-3:2005+A1:2009 OF THE SC60-COSMO FIRE DAMPER

Classification no.	2023-Efectis-R000614
Sponsor	N.V. RF-Technologies Lange Ambachtstraat 40 9860 OOSTERZELE BELGIUM
Product name	**SC60-COSMO**
Prepared by	Efectis Nederland BV
Notified body no.	1234
Author(s)	S.D. Nieuwendijk M.Sc. P.W.M. Kortekaas A. Burgstad B.Sc.
Project number	ENL-23-000488
Date of issue	September 2023
Number of pages	10

TABLE OF CONTENTS

1. INTRODUCTION

This classification report defines the classification assigned to SC60-COSMO in accordance with the procedures given in EN 13501-3:2005+A1:2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL DESCRIPTION FIRE DAMPER

Damper SC60-COSMO is a combination of an insulated valve damper type SC+, activated by a fusible link, and a swing valve type LRK-M. The fusible link reacts at 72 °C. The fire damper is a circular damper with galvanised steel casing. The inner diameter of the fire damper is 197.3 mm and the outer diameter 198.5 mm. On the casing of the damper are a rubber sealing ring and an intumescent strip. The damper has two semi-circular blades made of calcium silicate board.

Below is a limited description of specific tests. For details we refer to the test reports mentioned.

Report 2023-Efectis-R000129 dated May 2023:

- Supporting construction : aerated concrete wall, thickness 100 mm
- Outer diameter of the fire damper : 198.5 mm
- Inner diameter of the fire damper : 197.3 mm
- Blade : calcium silicate board, thickness 6 mm
- Blade pivot axis : horizontal
- Casing : galvanised steel
- Actuating mechanism : fusible link SC-D203
- Location actuating mechanism : unexposed side
- Seal between damper and wall : Rockwool Sono 50 mm
  Promastop-CC weichschott 2x 50 mm
- Insulation around fire damper : Armacell Armaflex EVO
- Location of the fire damper : 66 mm away from the unexposed side of the wall
- Type installation : wet, in walls

Report 2023-Efectis-R000131 dated June 2023:

- Supporting construction : metal stud wall, thickness 100 mm.
  Cladding on each side of wall with 2x 12.5 mm thick gypsum board, Rocksono Extra insulation
- Outer diameter of the fire damper : 198.5 mm
- Inner diameter of the fire damper : 197.3 mm
- Blade : calcium silicate board, thickness 6 mm
- Blade pivot axis : horizontal
- Casing : galvanised steel
- Actuating mechanism : fusible link SC-D203
- Location actuating mechanism : unexposed side
- Seal between damper and wall : Promaseal-AG
- Insulation around fire damper : Armacell Armaflex EVO
  Armacell Armaflex PROTECT
- Location of the fire damper : 66 mm away from the unexposed side of the wall
- Type installation : wet, in walls

Report 2023-Efectis-R000466 dated June 2023:

- Supporting construction : shaft wall, thickness 80 mm. Steel profiles with on one side of the wall two layers of 15 mm plasterboard

- Outer diameter of the fire damper : 198.5 mm
- Inner diameter of the fire damper : 197.3 mm
- Blade : calcium silicate board, thickness 6 mm
- Blade pivot axis : horizontal
- Casing : galvanised steel
- Actuating mechanism : fusible link SC-D203
- Location actuating mechanism : unexposed side
- Seal between damper and wall : Promastop CC
  CFS-CT B 1S
- Insulation around fire damper : Armacell Armaflex EVO AF
- Location of the fire damper : 66 mm away from the unexposed side of the wall
- Type installation : wet, in walls

3. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

3.1 TEST REPORTS

Name of Laboratory	Name of applicant	Test report No.	Test method
Efectis Nederland	*Rf-Technologies*	*2023-Efectis-R000129 dated May 2023*	EN 1366-2:2015
		2023-Efectis-R000131 dated June 2023	EN 1366-2:2015
		2023-Efectis-R000466 dated June 2023	EN 1366-2:2015

3.2 TEST RESULTS AND CLASSIFICATION

This classification has been carried out in accordance with clause 7 of: EN 13501-3:2005+A1:2009.

Description						**Time in minutes during which the criterion was fulfilled**			**Classification according to EN 13501-3:2005 + A1:2009****
Test report	Tested outer diameter [mm]	Supporting construction	Seal	Insulation	location actuating mechanism	Integrity	Thermal insulation	Leakage	
2023-Efectis-R000129	198.5	Aerated concrete wall	Rockwool Sono	Armacell Armaflex EVO	Unexposed side	91*	84	87	EI 30 (ve i ← o) S EI 60 (ve i ← o) S
			Promastop-CC weichschott			91*	91*	91*	
2023-Efectis-R000131	198.5	Metal stud wall	Promaseal-AG	Armacell Armaflex EVO	Unexposed side	95	94	95	EI 30 (ve i ← o) S EI 60 (ve i ← o) S EI 90 (ve i ← o) S
				Armacell Armaflex PROTECT		101	101	100	
2023-Efectis-	198.5	Shaft wall	Promastop CC	Armacell Armaflex EVO	Unexposed side	80*	60	80*	EI 30 (ve i ← o) S

R000466			CFS-CT B 1S	AF		80*	60	80*	EI 60 (ve i ← o) S

** no failure*
NOTE EN 13501-3:2005 + A1:2009 gives a limited explanation for the direction of the classification: (o → i) and (i → o). Efectis Nederland uses the following definition: (o → i) the temperature sensing element is located on the unexposed side of the specimen, (i → o) the temperature sensing element is located on the exposed side of the specimen.
NOTE For specimens tested in vertical separations 've' is used, 'ho' for specimens tested in horizontal separations.

4. FIELD OF APPLICATION

This classification has been carried out in accordance with clause 7 of EN 13501-3:2005+A1:2009.

4.1 SIZE OF FIRE DAMPER

If a leakage classification (S) is not required, a test result obtained for the largest fire damper is applicable to all dampers of the same type (including any aspect ratio) provided that the maximum dimensions do not exceed those tested and that the components remain in the same orientation as those tested.

If a leakage classification (S) is required, an additional fire damper, representing the smallest size, shall satisfy the leakage classification (S) criteria when tested at ambient temperature.

4.2 FIRE DAMPERS INSTALLED WITHIN STRUCTURAL OPENINGS

A test result obtained for a fire damper installed within a structural opening is only applicable to fire dampers of the same type installed in the same orientation and position in relation to the supporting construction as that tested.

4.3 FIRE DAMPERS INSTALLED ONTO THE FACE OF A WALL OR A FLOOR

No direct application.

4.4 FIRE DAMPERS REMOTE FROM A WALL OR FLOOR

No direct application.

4.5 FIRE FROM ABOVE

No direct application.

4.6 SEPARATION BETWEEN FIRE DAMPERS AND BETWEEN FIRE DAMPERS AND CONSTRUCTION ELEMENTS

A test result obtained for only one fire damper or for two fire dampers with a minimum clear separation of 200 mm is applicable to a minimum separation in practice of:

a) 200 mm between fire dampers installed in separate ducts;
b) 75 mm between fire damper and a construction element (wall/floor) – e.g. for a damper in a wall, this is the distance between the damper casing (largest dimension) mounted in the supporting construction and a wall or floor adjacent to that supporting construction.

4.7 SUPPORTING CONSTRUCTIONS

A test obtained for a fire damper mounted in or on the face of a standard supporting construction is applicable to a supporting construction of the same type with a fire resistance equal to or greater than that of the standard supporting construction used in the test (thicker, denser, more layers of board, as appropriate).

The test result can also apply to cellular or hollow masonry blocks or slabs that have a fire resistance time equal or greater than the fire resistance required for the fire damper installation.

Test results obtained with dampers installed in flexible vertical supporting constructions may be applied to rigid supporting constructions of a thickness equal to or greater than that of the element used in the tests, provided that the classified fire resistance of the rigid supporting construction is greater than or equal to the one used for the test. The sealants used shall be the same as those tested. Any fasteners used shall be fire rated to suit the supporting construction that is used.

Test results obtained with dampers installed in insulated flexible vertical supporting constructions may be applied to applications where the same flexible vertical supporting construction is uninsulated (less onerous as per EN 1363-1) – aperture framing shall be used using the same materials as used in the test partition construction, using the same number of boards as was tested.

Test results obtained with dampers installed in flexible vertical supporting constructions made with steel studs are not applicable to flexible vertical supporting constructions made using timber studs.

Test results obtained with dampers installed in aerated concrete are applicable to rigid constructions made from hollow blocks, provided that the holes are filled/closed before the addition of the final penetration seal.

If a specific supporting construction different from those described in EN 1366-2:2015 §7.2 is selected, the test results obtained are applicable only to that specific wall, partition or floor having a thickness and/ or density equal or greater than that tested.

4.8 BLADE PIVOT AXIS

No direct application.

5. LIMITATIONS

This classification document does not represent type approval or certification of the product.

SIGNED

S.D. Nieuwendijk, M.Sc.
Project leader Fire Resistance

A. Burgstad B.Sc.
Project leader Fire Resistance

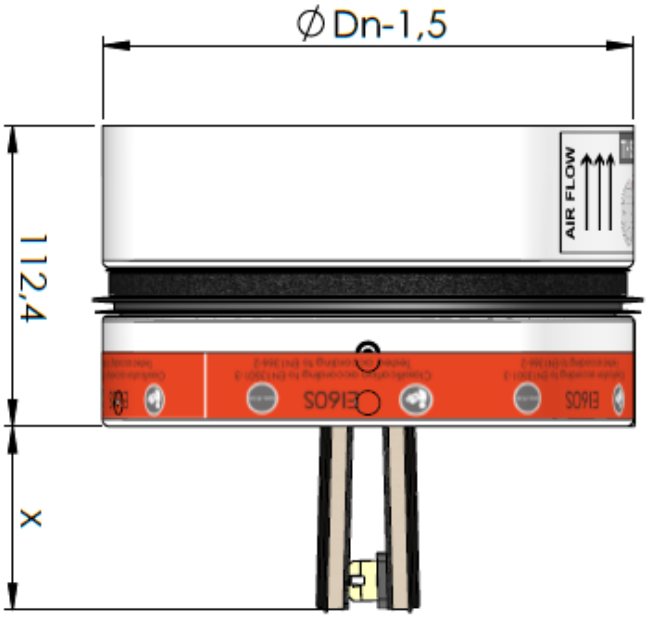
APPROVED

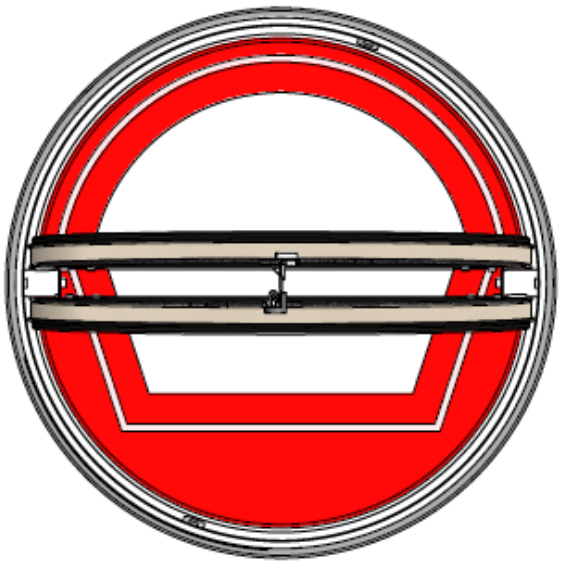
P.W.M. Kortekaas
Project leader Fire Resistance

6. FIGURES

1. Tunnel in steel
2. Two semi-circular blades
3. Intumescent strip around the tunel
4. Rubber sealing ring
5. Fusible link 72°
6. 2 blocking hooks
7. Backdraft damper

Figure 1: Overview of damper SC-60 Cosmo





Dn / Par	x
100	18
125	31
160	49
200	69

Figure 2: Dimensions of damper SC-60 Cosmo

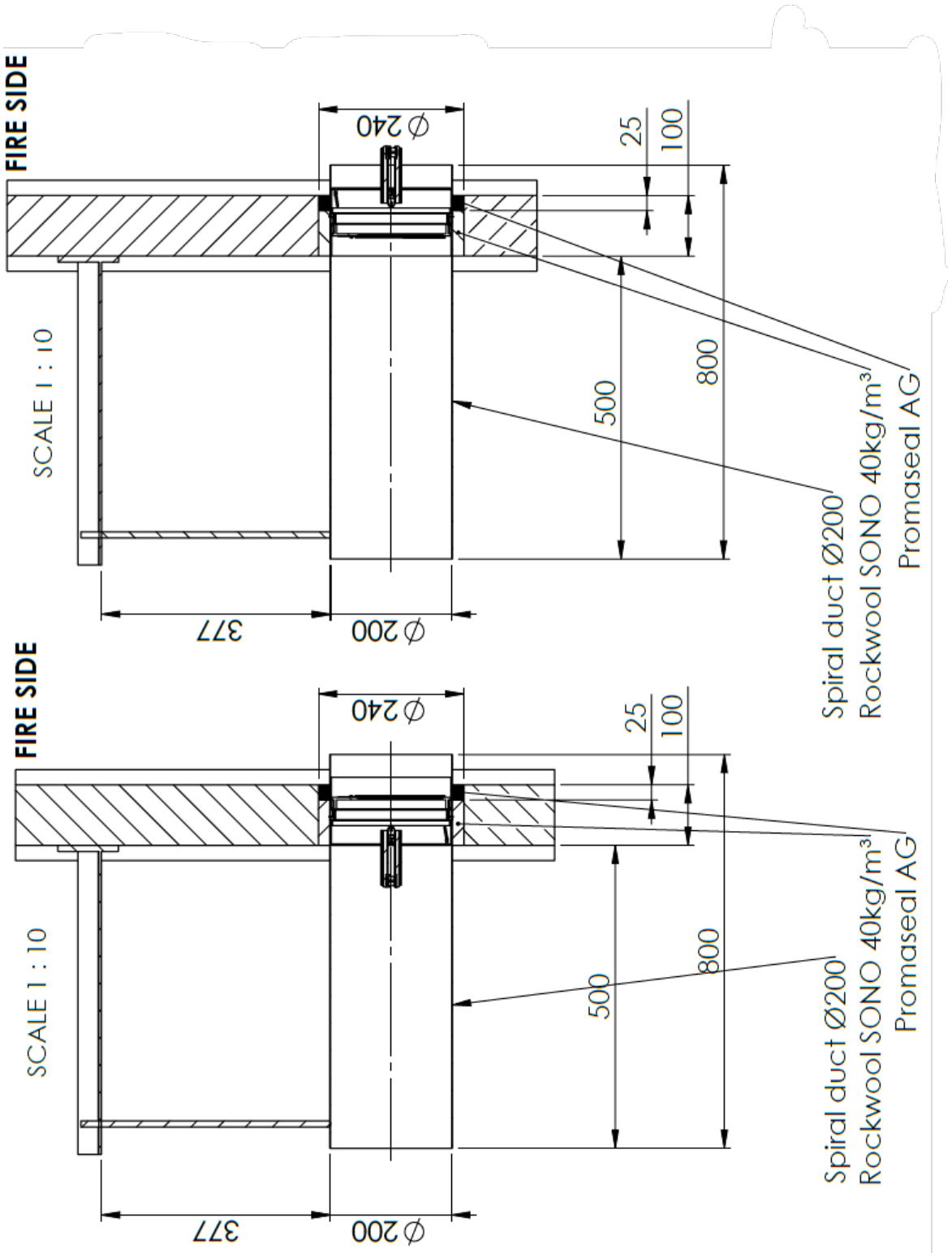


Figure 3: Section over damper C (below) and damper D (above)

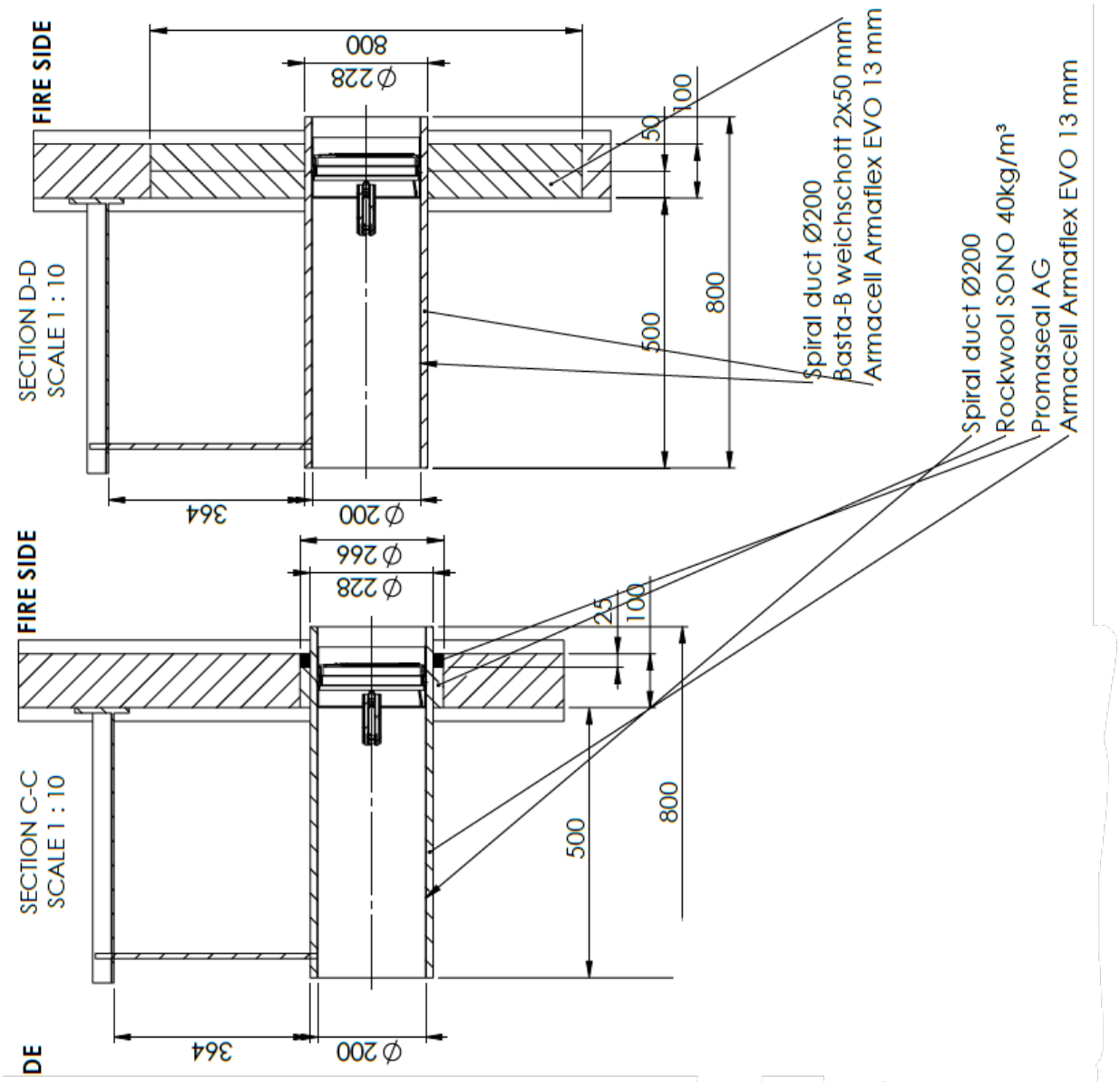


Figure 4: Section over damper A (below) and damper B (above)