



Serie INV



INTUMESCENT FIRE RESISTANT GRILLE



(+34) 91 3235805
(+34) 91 3235703



www.difair.es

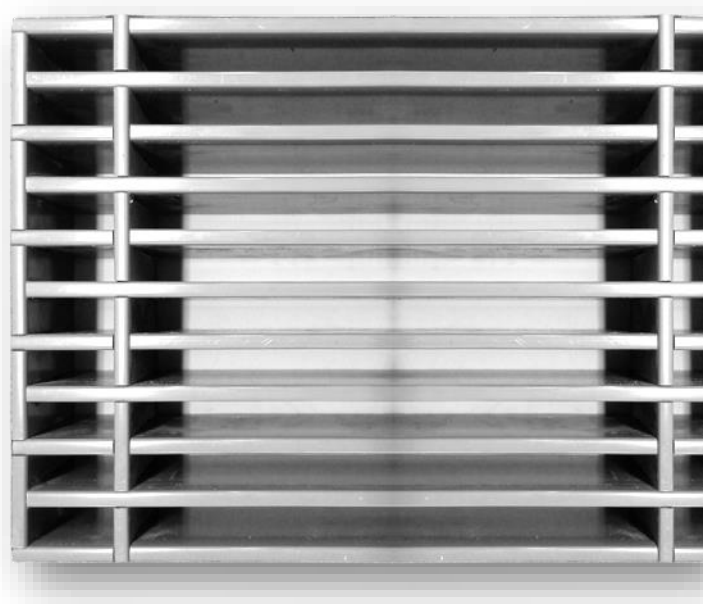


info@difair.es

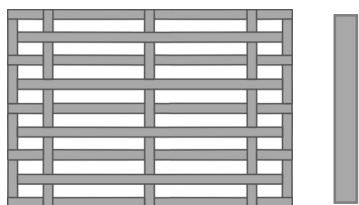


Avd. del Cno de lo Cortao, 28A, Nave 1
28703 San Sebastián de los Reyes, Madrid.

INTUMESCENT FIRE RESISTANT GRILLE SERIES INV

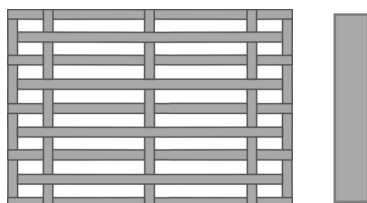


MODELS



INV 40

Intumescent fire resistant grille with 40mm thickness, 60' fire resistance classification according to standards **UNE-EN 1363-1:2012** and **UNE-EN 1364-5:2017**.

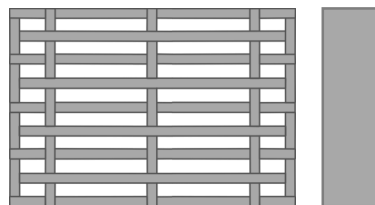


INV 50

Intumescent fire resistant grille with 50mm thickness, 90' fire resistance classification according to standards **UNE-EN 1363-1:2012** and **UNE-EN 1364-5:2017**.

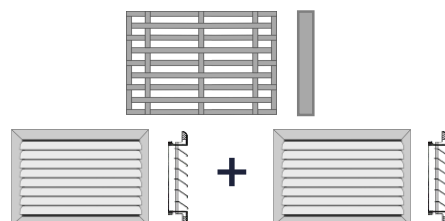
INV 60

Intumescent fire resistant grille with 60mm thickness, 120' fire resistance classification according to standards **UNE-EN 1363-1:2012** and **UNE-EN 1364-5:2017**.



INV 40 + SERIE F

Set of **1** intumescent fire resistant grille with 40mm thickness, and **2** 45° fixed blade grilles at the same dimensions to cover the previous one on both faces, 120' fire resistance classification according to standards **UNE-EN 1363-1:2012** and **UNE-EN 1364-5:2017**.



INTUMESCENT FIRE RESISTANT GRILLE

SERIE INV

DESCRIPCIÓN

The intumescent fire resistant grille **INV** have been developed to allow free circulation of air at ambient temperature through construction elements designed for fire resistance in buildings (walls, partitions, doors, etc.). When the grilles are subjected to fire, they swell under the effect of heat, thus preventing the passage of flames, fumes and gases.

Tested according to standards: **UNE-EN 1363-1:2012** "Fire Resistance tests. Part 1: General requirements" and according to standards: **UNE-EN 1364-5:2017** "Fire resistance tests for non-load bearing elements. – Part 5: Air transfer grilles".



FEATURES AND CLASSIFICATION

The intumescent grille Serie INV, have the following characteristics:

- **Fast reaction time:** At 100°C, the frame and the blades that make up the grille begin to expand, which causes the grating to start plugging. They plug quickly, usually in about 5 minutes depending on their exposure to heat.
- **Intumescence quality:** The frame and blades are made of thermoplastic profiles containing the high-end intumescent gasket, PALUSOL® brand.



INTUMESCENT FIRE RESISTANT GRILLE

SERIES INV

- **Thermoplastic sleeves:** The intumescent grilles consist of thermoplastic sleeves filled with PALUSOL® intumescent tapes.
- **Simplicity:** Very easy to install.
- **For indoor use:** They should only be applied indoors (avoid contact with water and continuous temperatures above 40°C).

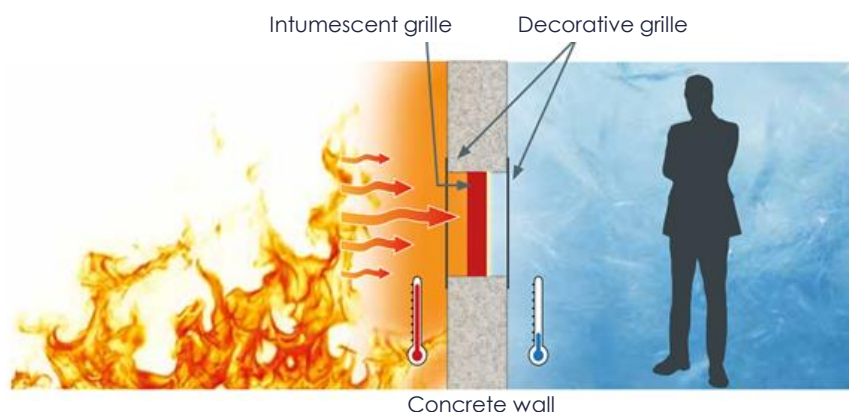
	INV 25	INV 40	INV 50	INV 60
Nominal Length	On request	From 100 mm to 600 mm	From 100 mm to 600 mm	From 100 mm to 600 mm
Nominal Height	On request	From 100 mm to 600 mm	From 100 mm to 600 mm	From 100 mm to 600 mm
Thickness	25 mm	40 mm	50 mm	60 mm
Effective air flow	60 % of nominal area	60 % of nominal area	60 % of nominal area	60 % of nominal area
Fire resistance	From 15 to 30 min (*)(**)	60 min (*)	90 min (*)	120 min (*)
Fire resistance with 2 fixed blade grilles at 45°.	-----	120 min (*)	120 min (*)	120 min (*)

Intumescent grilles have been approved according to the new European standard test: EN1364-5:2017.

Laboratory Note 14-F-122 according to EN1363-1 and EN1363-2. Fire resistance test according to the slow heating curve thermal program (cold smoke).

(*) The fire resistance time also depends on the type of substrate on which the material is installed. The installer must ensure that the installation complies with the regulations in force in his country. The manufacturer is not responsible for improper installation of its intumescent grilles.

(**) Fire resistance time achieved by customers in official tests (reports not available).



INTUMESCENT FIRE RESISTANT GRILLE SERIES INV

APPLICATION

INV Series intumescent grilles allow ventilation through:

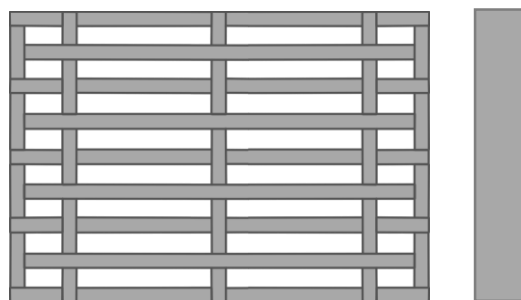
- **Fire-resistant doors**
- **Fire-resistant walls**
- **Fire resistant partitions**

INSTALLATION

PREAMBLE

The applicator has to check the suitability between the material and its application according to current regulations.

The DIFAIR VC intumescent grille used must correspond to the degree of fire resistance required by law. Their size, their characteristics and the support where they are installed will correspond to their certification (refer to the official test report and the technical data sheet of the material).



RECOMENDATIONS

DIFAIR INV intumescent grilles should not be placed in places susceptible to temperatures exceeding 40°C continuously.

DIFAIR INV intumescent grilles should not be stored or installed in excessively humid places or in direct contact with water.

DIFAIR INV intumescent grilles do not perform mechanical functions.

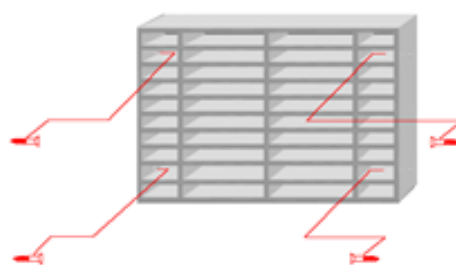
INTUMESCENT FIRE RESISTANT GRILLE SERIES INV

INSTALLATION

DIFAIR VC grilles are about 3 mm less than their nominal dimensions (L x H), so that they can be easily inserted into the hole to be covered.

They shall be placed centered with respect to the thickness of the concrete wall. The intumescent grating shall be mechanically fastened

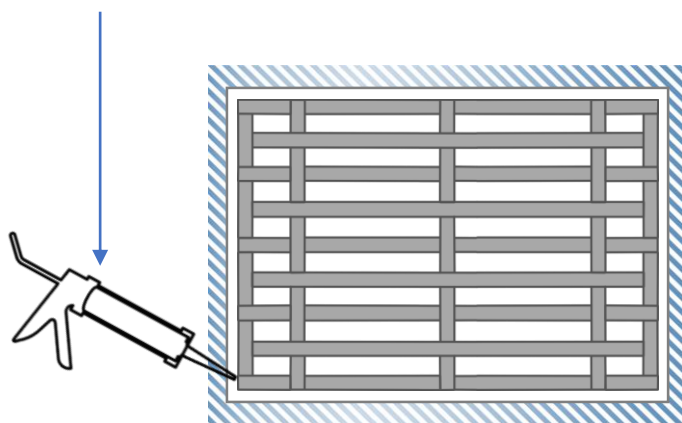
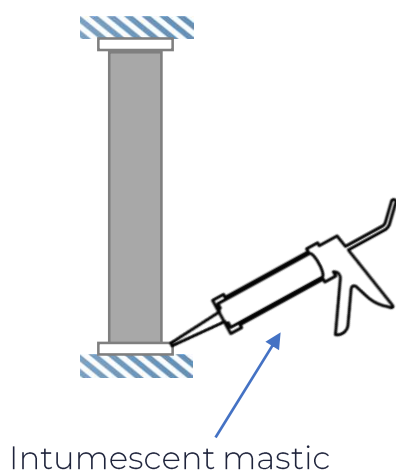
by means of 4 screws 4x40mm inserted in the work on both sides of the grating (see attached sketch).



IMPORTANT

Respect the direction in which the grille is installed with the sheets positioned horizontally (according to the enclosed sketch). The gaps (<5mm) between the **DIFAIR INV** grille and the wall must be sealed with **ACRYL** intumescent mastic in order to ensure total watertightness when cold or during a fire.

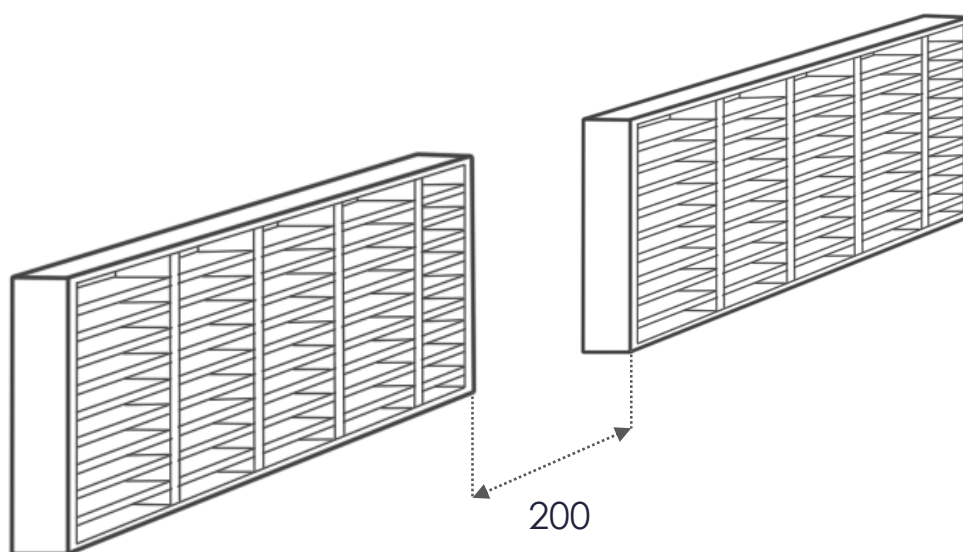
Grilles type INV40 (40mm thick) are only certified EI120' (RF2h) if placed between 2 aluminum return grilles with fixed blades at 45°.



INTUMESCENT FIRE RESISTANT GRILLE SERIES INV

INSTALLATION IN HOLES WITH LENGTH OR HEIGHT OVER 600 MM

When one of the 2 dimensions of the opening to be covered, both in width and height, is greater than 600 mm, we must place the grilles leaving a minimum space of 200 mm between grilles.



COMPATIBILITY

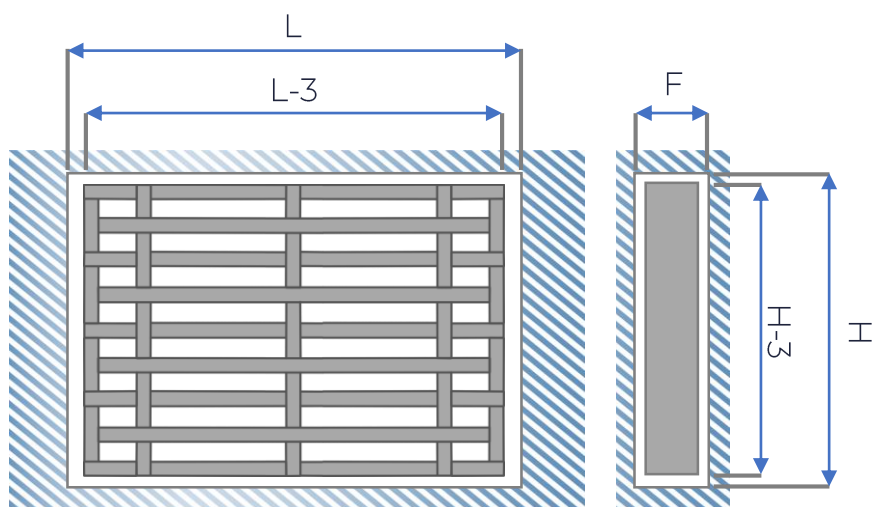
Intumescent grilles are compatible with all materials used in the manufacture of fire resistant doors, walls, partitions, floors and ventilation ducts. **The tests only contemplate the installation in concrete walls.**

STORAGE

Intumescent grids should be stored in a **dry and ventilated place**, taking into account that it is a **fragile product**.

INTUMESCENT FIRE RESISTANT GRILLE SERIES INV

DIMENSIONS



Model	Nominal	Hole	Background
INV-40	L X H	L X H	40
INV-50	L X H	L X H	50
INV-60	L X H	L X H	60

L = From 100 mm to 600 mm in steps of 50 mm
H = From 100 mm to 600 mm in steps of 50 mm
 Maximum dimensions: 600 x 600 mm

EFFECTIVE AREA

MOD. INV40-INV50-INV60

L H	100	150	200	250	300	350	400	450	500	550	600
100	0,0060	0,0090	0,0120	0,0150	0,0180	0,0210	0,0240	0,0270	0,0300	0,0330	0,0360
150		0,0135	0,0180	0,0225	0,0270	0,0315	0,0360	0,0405	0,0450	0,0495	0,0540
200			0,0240	0,0300	0,0360	0,0420	0,0480	0,0540	0,0600	0,0660	0,0720
250				0,0375	0,0450	0,0525	0,0600	0,0675	0,0750	0,0825	0,0900
300					0,0540	0,0630	0,0720	0,0810	0,0900	0,0990	0,1080
350						0,0735	0,0840	0,0945	0,1050	0,1155	0,1260
400							0,0960	0,1080	0,1200	0,1320	0,1440
450								0,1215	0,1350	0,1485	0,1620
500									0,1500	0,1650	0,1800
550										0,1815	0,1980
600											0,2160

INTUMESCENT FIRE RESISTANT GRILLE

SERIE INV

GRAPHIC DESCRIPTION

Serie	Model	Meas's	Accessories
	40		SERIE F
INV	50	L x H	
	60		

+

INV-40-500X100

SERIE

- INV: Intumescent grille.

MODEL

- INV40: Intumescent grille with 40mm thickness.

MEASUREMENTS (mm)

- LxH: 500 x 100 x 40 mm.

Order example: INV40 500x100

- To order Intumescent circular grille with 60min fire resistance, 500x100mm, you should request:

Order	Description
1 Intumescent grille INV40 500x100	Intumescent grille, 500x100x40mm, 60min fire resistance.

Order example: INV60 600x600

- To order Intumescent circular grille with 60min fire resistance, 600x600mm, you should request:

Order	Description
1 Intumescent grille INV60 600x600	Intumescent grille, 600x600x60mm, 120min fire resistance.



Any element of this document may be subject to change without notice from Manufacturas Difair-Clima, S.L. CONTAINS INTELLECTUAL PROPERTY. Any partial or total reproduction of the contents without the express authorization of Manufacturas DIFAIR-CLIMA, S.L. is prohibited.

The information contained in this document is based on careful testing and experience. It reflects our knowledge and is for guidance purposes only. It is provided in good faith and the user should satisfy himself that the product is fit for use prior to any application. The values quoted are averages and should not be taken as maximum or minimum values for specific purposes. The manufacturer and distributor are not responsible for any non-recommended use or consequential damage.

THE INFORMATION PROVIDED IN THIS DOCUMENT SUPERSEDES ALL PREVIOUS VERSIONS OF THIS DOCUMENT.



(+34) 91 3235805
(+34) 91 3235703



www.difair.es



info@difair.es



Manufacturas Difair-Clima, S.L.
Avd. del Cno de lo Cortao, 28A, Nave 1
28703 San Sebastián de los Reyes, Madrid.