

## APPLICATIONS AND LEGISLATION

The fire resistant grills represent the ideal solution for:

- The natural ventilation of adjacent fire resistant compartments: grill built into a fire-resistant door or wall. This solution is recommended in hospitals or office buildings, for example. The grill finishing must retain the aesthetic qualities of the premises and the intimacy of each compartment.
- The natural ventilation of technical premises: grill built into fire-resistant walls or doors. The level of fire resistance and the dimensions of the grill take precedence over aesthetic qualities.



According to European legislation concerning the fire resistance of construction products, the fire resistant grills are destined for the natural ventilation of premises and cannot be used for mechanical ventilation applications. Specifically, this means that a fire-resistant grill cannot, for example, be installed into a mechanical ventilation shaft. In this situation, only a fire damper would respond to requirements such as environmental pressure.

The fire resistant grills do not constitute an adequate solution for preventing the dispersion of smoke and cold gases as the functioning of the grill is heat-activated.



## Natural ventilation: fire resistant grills



## RF-TECHNOLOGIES

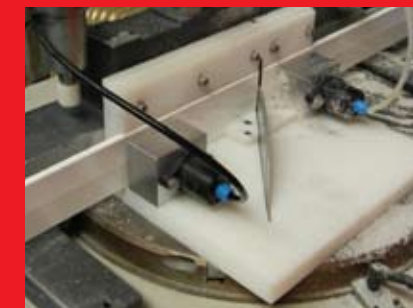
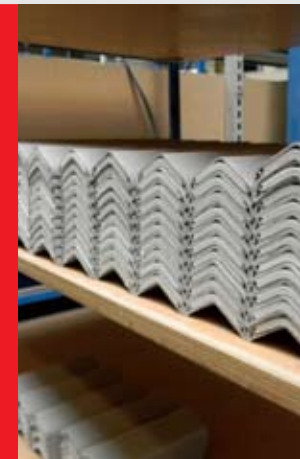
Rf-Technologies is a prominent European manufacturer of specialised solutions for compartmentation and smoke evacuation. The company markets its products through a wide network of partners in over fifteen European countries.

Rf-Technologies was founded in 1985 and is still family-owned. It employs 140 people in its two sites in Belgium (headquarters) and Slovakia.

Significant investments in research and development give evidence of our willingness to continuously extend and improve our product range.



## A RANGE OF CERTIFIED SOLUTIONS





### Rf-Technologies

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The fire resistant transfer grills are mounted in the walls or the doors to prevent flame and heat propagation in the event of a fire. Situated at the interface between the worlds of ventilation and passive fire protection, these grills must respond to the needs and regulatory standards inherent to these two domains.

 **A compliant range for all types of walls:** Rf-Technologies offers a wide range of fire resistant grills that meet the strictest European standards regarding the penetration of fire resistant walls, floors, ceilings, and doors.

 **Fire resistance:** Rf-Technologies grills are made of profiles in synthetic material filled with intumescent strips that inflate in the event of fire in order to rapidly seal the opening and offer protection against flame and heat propagation during a guaranteed lapse of time.

 **Optimal air circulation:** Rf-Technologies grills are conceived to allow superior natural ventilation. The range is also characterized by the availability of an aesthetic model and by a wide choice of dimensions: up to 1200 mm x 800 mm.

## FUNCTIONING

The functioning of a fire resistant transfer grill is based on the dilatation properties of the intumescent materials in the profiles. When the room temperature reaches 100°C, the material dilates to attain several times its original thickness. The slats then melt together to constitute a non-combustible mass that procures a fire resistance similar to that of the construction penetrated. This way, it impedes the passage of the flames, heat, and gases.

The following images show how the intumescent grills behave to fire.



The intumescent grill is made of horizontal profiles filled with intumescent material



The fire breaks out and the temperature reaches 100°C



Due to heat activity, the intumescent material inflates to attain several times its original thickness and thus prevent passage of the smoke and flames

## FIRE RESISTANCE

The fire resistance of a product is measured in time units (60 = 60 minutes). Some basic criteria are applied in the European fire test and classification systems in order to measure performance in terms of the transfer grills fire resistance:

**E – integrity:** the period of time during which no flames pass through to the non-exposed side of the wall. During this lapse of time, no openings (such as cracks, splits, joint openings...) in the construction elements are produced through which flames are able to propagate.

**W – radiation:** limitation of heat radiation through the construction element, measured at one metre distance from the element (maximum 15 kW/m²).

**I – insulation:** this criterion defines the capacity of a construction element to resist fire exposure on one side, without significant heat transmission to the side that is not exposed to the fire. For this criterion, heat transmission is measured on the element itself.

**Indication (i→o), (o→i) or (i↔o):** this complementary indication specifies if the element tested fulfils the criterion from the interior (i= inside) towards the exterior (o=outside), the opposite or both, in which case the direction of the fire is irrelevant.

**ve or ho:** refers to the direction in which the element is positioned, either vertically or horizontally in the wall, that is to say respectively in a wall or in a massive ceiling.





The specifications table allows you to determine which product corresponds best to your specific needs, for example, in terms of fire resistance, transfer rate, and aesthetic.

## RANGE SPECIFICATIONS

The range of Rf-Technologies fire resistant transfer grills consists of two product families, named Gz and Ge.

**The Gz60 grill** is an aesthetically finished non-vision model approved for mounting into any type of wall, including fire resistant wooden door panels. In order to satisfy architectural preferences, the grill is available in the three standard RAL colours. A fixed or variable frame finishing ensures a perfect result for the opening effected in the wall. This grill offers a harmonious architectural solution for the natural ventilation of hospitals or office buildings.

**The Ge grill** is available in various degrees of fire-resistance (60 or 90 minutes). The Ge60-XL model also disposes of a reinforced frame in HDF, which ensures its rigidity, even for the largest dimensions. This complete family of products is ideal for ventilating technical premises, for example.

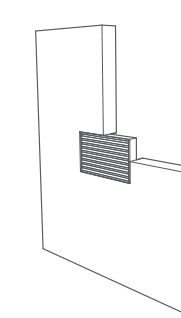
	Gz60	Ge60	Ge60-XL	Ge90
Product				
Definition	Aesthetically finished non-vision grill for wooden door panels and all types of walls	Technical vision grill in small dimensions	Technical vision grill in large dimensions	Technical vision grill with fire resistance of 90 minutes
Dimensions See table	●	●	●	●
Thickness	55mm	50mm	Frame 100mm Grill 50mm	50mm
'Vision' grill		✓	✓	✓
Classification	EN13501-2			
Fire tests	EN1364-1	EN1364-1	EN1364-1	EN1364-1
	EN1364-2			
	EN1634-1			
Classification	EI 60 (Ve, ho i→o)	EI 60 (Ve i→o)	EI 60 (Ve i→o)	EI 90 (Ve i→o)
	EW 60 (Ve, ho i→o)	EW60 (Ve i→o)	EW60 (Ve i→o)	EW90 (Ve i→o)
	EW 90 (Ve, i→o)*			
Massive wall	✓	✓	✓	✓
Massive floor	✓			
Light wall	✓			
Wooden door	✓			
Free air passage %	48.53–59.48	42.3–57.55	41.07–55.22	42.3–57.55
Transfer rate m³/h ΔP=10Pa	19.9–1257.1	62.3–2409	600.5–7210.4	62.3–2409
Colour	3 RAL colours : 9022, 7024, 9016	RAL 7035	RAL 7035	RAL 7035
Options	Finishing frame			
Grill frame	PS	PVC	Treated High-Density Fibreboard	PVC
Fixing	Depending on its application	Silicone mastic BCM	Mortar	Silicone mastic BCM

(\* ) only in massive walls

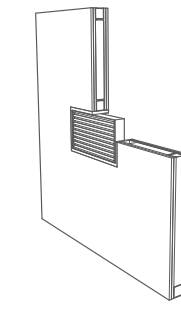
## AVAILABLE DIMENSIONS

H\L [mm]	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1100	1200
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-
150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-
200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-
300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
350	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-
400	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
500	-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	●	●	●	●
600	-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	●	●	●	●
700	-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	●	●	●	●
800	-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	●	●	●	●

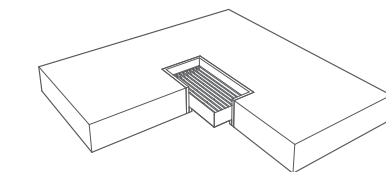
- Ge60-XL
- Ge60, Ge90, Gz60



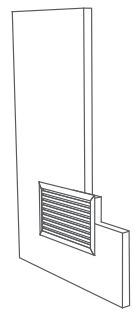
Massive wall



Light wall



Massive floor



Wooden door panel