

EUROPEAN ASSESSMENT DOCUMENT

EAD 020011-00-0405

June 2015

**ROOF, FLOOR, WALL AND CEILING
HATCHES**

**PROVIDING ACCESS OR FOR USE
AS AN EMERGENCY DOOR /
WITH OR WITHOUT FIRE
RESISTANCE**

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This European Assessment Document (EAD) has been developed taking into account up-to-date technical and scientific knowledge at the time of issue and is published in accordance with the relevant provisions of Regulation (EU) No 305/2011 as a basis for the preparation and issuing of European Technical Assessments (ETA).

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1 SCOPE OF THE EAD

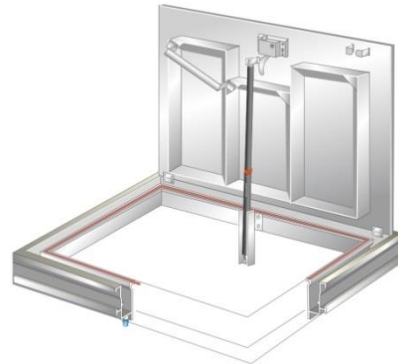
1.1 Description of the construction product

General description

The definition of the construction product is a metal hatch (cover) fitted in a metal frame (curb) and horizontally mounted on a roof, in a floor or ceiling structure and vertically mounted in an internal wall structure.



Hatch for access through roof



Hatch for access through floor



Hatch for access through wall

The hatches are constructed from metal profiles and sheets. For instance sheets from steel (alloy S 235, S 275, S 355 or stainless steel), aluminium or glass and/or extruded aluminium profiles (alloy EN AW 6060 or EN AW 6063 according to EN 573-1), including hardware.

The metal profiles and sheets are (powder) coated, namely a polyester coating with a thickness of about 80 micron.

For thermal resistance purpose the roof hatch, including the curb is insulated with PUR/PIR foam; fire resistant roof hatches are insulated with mineral wool with intumescent strips.

Dimensions: width between 0.5 and 1.5 m, length between 1.0 and 2.5 m.

In the production process of the hatches there is no stage which results in an improvement of the reaction to fire classification.

The product is not covered by a harmonised European standard (hEN). The hatches are not covered by EN 14351-1 or EN 16034 because these standards cover pedestrian door sets and because (roof) windows are not intended to be used as entrance or exit.

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport, storage, maintenance, replacement and repair of the product as he considers necessary.

It is assumed that the product will be installed according to the manufacturer's instructions or (in absence of such instructions) according to the usual practice of the building professionals.

Relevant manufacturer's stipulations having influence on the performance of the product covered by this European Assessment Document shall be considered for the determination of the performance and detailed in the ETA.

1.2 Information on the intended use(s) of the construction product

1.2.1 Intended use(s)

Use as a one hand operated hatch with one or more covers, mounted in or on a flat construction (horizontal or sloping up to 30 ° and vertical in walls), in order to provide access to adjacent space or room, through a roof, floor, wall or ceiling, sometimes in combination with a staircase, ladder, attic stair or retractable stair. Examples of installed hatches are given in Annex 1.

1.2.2 Working life/Durability

The assessment methods included or referred to in this EAD have been written based on the manufacturer's request to take into account a working life of the hatches for the intended use of 25 years when installed in the works (provided that the hatch is subject to appropriate installation (see 1.1)). These provisions are based upon the current state of the art and the available knowledge and experience.

When assessing the product the intended use as foreseen by the manufacturer shall be taken into account. The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works¹.

The indications given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by EOTA when drafting this EAD nor by the Technical Assessment Body issuing an ETA based on this EAD, but are regarded only as a means for expressing the expected economically reasonable working life of the product.

¹ The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than referred to above.

2 ESSENTIAL CHARACTERISTICS AND RELEVANT ASSESSMENT METHODS AND CRITERIA

2.1 Essential characteristics of the product

Table 1 shows how the performance of hatches is established in relation to the essential characteristics.

Table 1 Essential characteristics of the product and methods and criteria for assessing the performance of the product in relation to those essential characteristics

No	Essential characteristic	Assessment method	Type of expression of product performance <i>(level, class, description)</i>
Basic Works Requirement 1: Mechanical resistance and stability			
1	Resistance to permanent load *), concentrated and uniformly distributed	2.2.1	Level
Basic Works Requirement 2: Safety in case of fire			
1	Reaction to fire of the different materials	2.2.2	Classification according to EN 13501-1
2	Resistance to fire	2.2.3	Classification according to EN 13501-2
3	External fire performance **)	2.2.4	Classification according to EN 13501-5
Basic Works Requirement 3: Hygiene, health and the environment			
1	Water tightness **)	2.2.5	Classification according to EN 12208
Basic Works Requirement 4: Safety and accessibility in use			
1	Resistance to wind load **)	2.2.6	Classification according to EN 12210
2	Resistance to snow load **)	2.2.7	Level according to Eurocode EN 1991-1-3
3	Impact load, hard body **)	2.2.8	Classification according to EN 13049
4	Impact load, soft body	2.2.9	Classification according to EN 13049
5	Burglary resistance	2.2.10	Classification according to EN 1630

No	Essential characteristic	Assessment method	Type of expression of product performance <i>(level, class, description)</i>
Basic Works Requirement 5: Protection against noise			
1	Airborne sound insulation	2.2.11	Level according to EN ISO 717-1.
Basic Works Requirement 6: Energy economy and heat retention			
1	Thermal transmittance **)	2.2.12	Level according to EN-ISO-10077-2
2	Air permeability **)	2.2.13	Classification according to EN 12207

*) *In case of floor hatches*

**) *In case of roof hatches*

2.2 Methods and criteria for assessing the performance of the product in relation to essential characteristics of the product

Characterisation of products to be assessed shall be done in accordance with available specifications, notably as given in section 1.1.

2.2.1 Mechanical stability and resistance

The resistance to permanent, concentrated and uniformly distributed load to be calculated according to EN 1993-1-1 and the result shall be stated in the ETA.

2.2.2 Reaction to fire

The relevant components of the hatches such as PUR, PIR, mineral wool and thermal isolation panels made of expanded perlite shall be tested, using the test method(s) relevant for the corresponding reaction to fire class, in order to be classified, according to EN 13501-1, in accordance with the provisions of Commission Delegated Regulation (EU) 2016/364.

The metal profiles and sheets are considered to satisfy the requirements for performance class A1_(fl) – s1 and/or d0 of the characteristic reaction to fire, in accordance with the provisions of Decision 1996/603/EC (as amended) without the need for testing on the basis of their listing in that decision.

The components/materials shall be classified according to EN 13501-1.

2.2.3 Resistance to fire

The product shall be tested according to EN 1634-1.
The product shall be classified according to EN 13501-2.

2.2.4 External fire performance of roofs

The roof (including the complete roof covering) in which the hatch is intended to be incorporated, installed or applied shall be tested using the test method relevant for the corresponding external fire performance roof class, in order to be classified according to EN 13501-5.

2.2.5 Water tightness

Water tightness shall be tested according to EN 1027; for the position of the nozzles and the flow volume see 6.3 of EN 1873.

The product shall be classified according to EN 12208.

2.2.6 Resistance to wind load

Resistance to wind load shall be tested according to EN 12211.

The product shall be classified according to EN 12210.

2.2.7 Resistance to snow load

The applicant shall provide sufficient information of the infill to enable the determination of the load-bearing capacity of the infill, e.g. information of the thickness and type of glass.

Information of the infill shall be given in the ETA.

2.2.8 Impact load, hard body

This characteristic of the product as it stands (hatch) shall be tested according to EN 356.

The product shall be classified according to EN 356.

2.2.9 Impact load, soft body

This characteristic shall be tested according to EN 13049.

The product shall be classified according to EN 13049.

2.2.10 Burglary resistance

The resistance against burglary shall be determined according to EN 1627.

The product shall be classified according to EN 1630.

2.2.11 Airborne sound insulation

The airborne sound insulation shall be determined according to EN ISO 10140-2.

The product shall be classified by the single value R_w determined according to EN ISO 717-1.

2.2.12 Thermal transmittance

The thermal transmittance shall be determined or calculated according to EN-ISO 10077-1 and or 2 or by using the hot box method EN-ISO 12567-2.

The product shall be classified by the single value according to EN-ISO 10077-1 or 2 or EN-ISO 12567-2.

2.2.13 Air permeability

The air permeability of the length of the opening joint shall be tested according to EN 1026.

The product shall be classified according to EN 12207.

3 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

3.1 System(s) of assessment and verification of constancy of performance to be applied

For the products covered by this EAD the applicable European legal act is: Decision 1999/93/EC.

The system(s) is (are): **1, 3 and 4** as given below:

Table 2a

System of assessment and verification of constancy of performance applicable to roof, floor, wall and ceiling hatches.

Product	Intended use	Level or class	AVCP system
Roof, floor, wall and ceiling hatches (with or without related hardware)	Fire/smoke compartmentation and in escape routes	Reaction to fire: A1 Resistance to fire: any class External fire performance of roofs: any class	1

Table 2b

System of assessment and verification of constancy of performance applicable to roof, floor, wall and ceiling hatches.

Product	Intended use	Level or class	AVCP system
Roof, floor, wall and ceiling hatches (with or without related hardware)	In roofs, walls, floors and ceilings	any	3

Table 2c

System of assessment and verification of constancy of performance applicable to roof, floor, wall and ceiling hatches.

Product	Intended use	Level or class	AVCP system
Roof, floor, wall and ceiling hatches (with or without related hardware)	In ceilings No wind, water, air, snow, hard/softbody impact, sound, thermal, burglary and safety applications	any	4

3.2 Tasks of the manufacturer

The corner stones of the actions to be undertaken by the manufacturer of hatches in the procedure of assessment and verification of constancy of performance are laid down in Table 3.

Table 3 **Control plan for the manufacturer; corner stones**

No	Subject/type of control	Test or control method	Criteria, if any	Minimum number of samples	Minimum frequency of control
Factory production control (FPC) including testing of samples taken at the factory in accordance with a prescribed test plan					
1	Check of incoming material	Components with CE marking			Every Batch
2	Water tightness	2.2.5	No water leakage	1	Once 2 years
3	Air permeability	2.2.13	The same class	1	Once 2 years
4	Documentation of controls				Once a year

3.3 Tasks of the Notified Body

The corner stones of the actions to be undertaken by the Notified Body in the procedure of assessment and verification of constancy of performance for hatches are laid down in Table 4.

The tasks of the Notified Body in Table 4 are limited only to the fire related performance aspects.

Table 4 **Control plan for the manufacturer; corner stones**

No	Subject/type of control	Test or control method	Criteria, if any	Minimum number of samples	Minimum frequency of control
Initial inspection of the manufacturing plant and of factory production control (for system 1 only)					
1	Initial inspection of the manufacturing plant and sampling in accordance with section 2 of this EAD.				--
2.	Assessment of the technical conditions in the factory, including the assessment of the factory production control system.				--
Continuous surveillance, assessment and evaluation of factory production control (for system 1 only)					
1	Subsequent continuous surveillance of factory production control to ensure continuing conformity with the performance stated in the ETA.				Once a year

4 REFERENCE DOCUMENTS

As far as no edition date is given in the list of standards thereafter, the standard in its current version at the time of issuing the European Technical Assessment, is of relevance.

EN 356	Glass in building – Security glazing – Testing and classification of resistance against manual attack
EN 573-1	Aluminium and aluminium alloys – Chemical composition and form of wrought products – Part 1: Numerical designation system
EN 1026	Windows and doors - Air permeability - Test method
EN 1027	Windows and doors – Watertightness - Test method
EN 1627- EN1630	Pedestrian doorsets, windows, curtain walling, grilles and shutters Requirements, classification test methods resistance under static load; resistance to dynamic load; resistance to manual burglary attempt
EN 1634-1	Pedestrian doorsets, industrial, commercial, garage doors and operable windows — Product standard, performance characteristics — Fire resisting and/or smoke control characteristics
EN 1873	Prefabricated accessories for roofing – Individual roof lights of plastics – Product specification and test methods
EN 1991-1-1	Action on structures-Part 1-1 General actions-Density, self-weight, imposed loads for buildings.
EN 1993-1-1	Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings
EN 12207	Windows and doors - Air permeability - Classification
EN 12208	Windows and doors - Water tightness - Classification
EN 12210	Windows and doors - Resistance to wind load - Classification
EN 12211	Windows and doors - Resistance to wind load - Test method
EN 13049	Windows – Soft and heavy body impact – Test method, safety requirements and classification
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, excluding ventilation devices
EN 13501-5	Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests
EN-ISO 717-1	Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation – Amendment 1: Rounding rules related to single number ratings and single number quantities
EN-ISO 10077-1	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: General
EN-ISO 10077-2	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: Numerical method for frames

EN-ISO 10140-2	Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation
EN-ISO 12567-2	Thermal performance of windows and doors-Determination of thermal transmittance by hot box method-Part 2: Roof windows and other projecting windows.

ANNEX 1 - EXAMPLES OF INSTALLED HATCHES



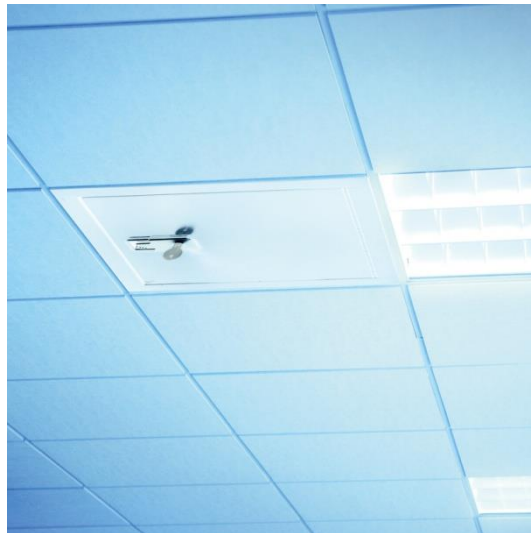
Roof hatch



Floor hatch



Wall hatch



Ceiling hatch