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**CERTIFICATE OF APPROVAL**  
**No CF 564**

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This is to certify that, in accordance with  
CERTIFIRE's Rules for Certification  
The undermentioned products of

**LORIENT POLYPRODUCTS LIMITED**

Fairfax Road, Heathfield Industrial Estate, Newton Abbot,  
Devon, TQ12 6UD

Tel: 01626 834252 Fax: 01626 833166

Have been assessed against the requirements of the Technical Schedule(s)  
denoted below and are approved for use subject to the conditions  
appended hereto:

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**CERTIFIED PRODUCT**

**Lorient Non-vision Style  
LVN20, LVN25, Vision  
Style LVV40, LVC40 and  
High Performance Vision  
Style LVH44, LVHC44 Air  
Transfer Grilles**

**Lorient LVN20S, LVN25S  
and LVV40S Air Transfer  
and Smoke Control Grilles**

**TECHNICAL SCHEDULE**

**TS47 – Intumescent Air  
Transfer Grilles**

Signed and sealed for and on behalf of CERTIFIRE

Sir Ken Knight  
Chairman - Management Council

Issued: 19<sup>th</sup> August 2008  
Valid: 18<sup>th</sup> August 2013

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Seal is in place Only valid when authentic CERTIFIRE



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## **CERTIFICATE No CF 564**

### **LORIENT POLYPRODUCTS LIMITED**

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**LORIENT AIR TRANSFER GRILLES – LVN20, LVN25, LVV40, LVC40, LVH44 & LVHC44**  
**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

1. Lorient air transfer grilles comprise a range of vision style and non-vision intumescent based grilles of differing thicknesses, applications and intumescent types. They are available in rectangular and circular shapes over a range of sizes for up to 600 mm square, dependant on grille type and fire resistance period required. Steel cover grilles are optional for many types or are specifically required for some applications. Full details of the applications and their requirements are given in later parts of this certificate.
2. The air transfer grilles are approved on the basis of:
  - i) A design appraisal against TS47
  - ii) Initial type testing
  - iii) Manufacturing frequency checks
  - iv) Ageing and durability tests
  - v) Evidence of technical support
  - vi) Clear and unambiguous labeling of grilles
  - vii) Production surveillance under ISO 9001: 2000
  - viii) Ongoing audit tests in accordance with TS47
3. The air transfer grilles are suitable to be used as follows: -
  - LVN20
    - Installed within CERTIFIRE approved FD30 timber based doorsets
  - LVN20S
    - Installed within CERTIFIRE approved FD30S timber based doorsets
    - Installed within CERTIFIRE approved FD60S timber based doorsets
  - LVN25
    - Installed within CERTIFIRE approved FD30 timber based doorsets (subject to leaf thickness)
    - Installed within CERTIFIRE approved FD60 timber based doorsets
  - LVN25S
    - Installed within CERTIFIRE approved FD30S timber based doorsets (subject to leaf thickness)
    - Installed within CERTIFIRE approved FD60S timber based doorsets
  - LVV40/LVC40
    - Installed within CERTIFIRE approved FD30 timber based doorsets
    - Installed within CERTIFIRE approved FD60 timber based doorsets
    - Installed within CERTIFIRE approved FD60 steel based doorsets
    - Installed within CERTIFIRE approved FD60 mineral composite cored doorsets
    - Installation within masonry walls for 60 minutes fire resistance periods.



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**LORIENT AIR TRANSFER GRILLES – LVN20, LVN25, LVV40, LVC40, LVH44 & LVHC44**  
**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

LVV40S

- Installation within masonry walls for up to 90 minutes fire resistance periods.

LVH44/LVHC44

- Installed within CERTIFIRE approved steel based doorsets for up to FD120
- Installed within CERTIFIRE approved mineral composite cored doorsets for up to FD120
- Installation within masonry walls and concrete floors for up to 120 minutes fire resistance periods.

4. Doorset assemblies and wall/floor assemblies into which the Lorient air transfer grilles are to be fitted shall be previously successfully tested to BS 476: Part 22: 1987 and must have incorporated an aperture (typically a glazed aperture in doors) of a size at least equal to that of the Lorient air transfer grille intended for installation. Failure to satisfy these criteria will invalidate the certification.
5. The suitability of the air transfer grilles in door assemblies not certificated by CERTIFIRE should be established by reference to the certification, test reports or assessments relating to the particular door assembly.
6. The Lorient air transfer grilles are approved for use in the following maximum sizes or areas:
  - LVN20 any rectangular shape up to a maximum area of 0.2025 m<sup>2</sup>
  - LVN20S any rectangular shape up to a maximum area of 0.16 m<sup>2</sup>
  - LVN25 any rectangular shape up to a maximum area of 0.2025 m<sup>2</sup>
  - LVN25S any rectangular shape up to a maximum area of 0.16 m<sup>2</sup>
  - LVV40 up to 600 mm by 600 mm
  - LVV40S any rectangular shape up to a maximum area of 0.2025 m<sup>2</sup>
  - LVC40 up to 600 mm diameter
  - LVH44 any rectangular shape up to a maximum area of 0.2025 m<sup>2</sup>
  - LVHC44 up to 465 mm diameter

#### **Timber doorsets - LVN20, LVN20S, LVN25, LVN25S, LVV40 and LVC40**

7. The LVN20, LVN20S, LVN25, LVN25S, LVV40 and LVC40 air transfer grilles are approved for installation within timber based doorsets for 30 minutes integrity performances, subject to the following requirements:
  - If the door leaf core does not comprise a solid timber lamel core (i.e. a core of chipboard, flaxboard etc.), the aperture provided in the leaf should be lined to full width using hardwood, with a minimum density of 650 kg/m<sup>3</sup> and a thickness of at least 6 mm. This hardwood liner may be omitted should the leaf have been tested with the aperture unlined.



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**LORIENT AIR TRANSFER GRILLES – LVN20, LVN25, LVV40, LVC40, LVH44 & LVHC44**  
**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

- Approval of the LVN25 and LVN25S grilles in FD30 doorsets is limited to doorsets having door leaves with a minimum leaf thickness of 50 mm.
- The air transfer grille will be bedded onto a layer of LORIENT acrylic intumescent mastic.
- All grilles shall be installed subject to the positional limitations given later in this approval.

The LVN20S, LVN25, LVN25S, LVV40 and LVC40 air transfer grilles are approved for installation within timber based doorsets for 60 minutes integrity performances, subject to the following requirements:

- If the door leaf core does not comprise a solid timber lamel core (i.e. a core of chipboard, flaxboard etc.), the aperture provided in the leaf should be lined to full width using hardwood, with a minimum density of 650 kg/m<sup>3</sup> and a thickness of at least 6 mm. This hardwood liner may be omitted should the leaf have been tested with the aperture unlined.
- The air transfer grille will be bedded onto a layer of LORIENT acrylic intumescent mastic.
- All grilles shall be installed subject to the positional limitations given later in this approval.

In all applications where cold smoke leakage compliance is required, the LVN20S and LVN25S shall only be fitted to proven FD30/60S compliant doorsets.

#### **Steel based or mineral composite cored doorsets - LVV40 and LVC40**

8. The LVV40 and LVC40 air transfer grilles are approved for installation within steel based or rigid mineral cored doorsets for up to 60 minutes integrity performances, subject to the following requirements:

- The air transfer grille will be bedded onto a layer of LORIENT acrylic intumescent mastic.
- The grilles shall not be fitted into steel based doorsets with core materials of Polyurethane foam, Polyisocyanurate foam or Polystyrene unless there is test evidence from a UKAS laboratory validating the doorset's use for the required period when incorporating apertures of similar dimensions.

A handwritten signature in black ink, appearing to be "K. J. ...".



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**LORIENT AIR TRANSFER GRILLES – LVN20, LVN25, LVV40, LVC40, LVH44 & LVHC44**  
**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

#### **Steel based or mineral composite cored doorsets - LVH44 and LVHC44**

9. The LVH44 and LVHC44 air transfer grilles are approved for installation within steel based or rigid mineral cored doorsets for up to 120 minutes integrity performances, subject to the following requirements:
- The aperture within the door leaf shall be lined with a LORIENT “LX4404” intumescent seal prior to installation of the air transfer grille.
  - The grille shall be provided with steel cover grilles mechanically fixed to each face of the door leaf.
  - The grilles shall be limited to use with doorsets having a minimum leaf thickness of 44 mm.
  - The grilles shall not be fitted into steel based doorsets with core materials of Polyurethane foam, Polyisocyanurate foam or Polystyrene unless there is test evidence from a UKAS laboratory validating the doorset’s use for the required period when incorporating apertures of similar dimensions.

#### **Installation within masonry walls - LVV40, LVV40S and LVC40**

10. The LVV40, LVV40S and LVC40 air transfer grilles are approved for installation directly into masonry walls, or when mounted within non-combustible framing for up to 60 minutes and 90 minutes (LVV40S) integrity performances, subject to the following requirements:
- When fitted directly within an aperture within a masonry wall the air transfer grille will be bedded onto a layer of LORIENT acrylic based intumescent mastic.
  - Where the option for non-combustible framing is chosen the framing shall have a minimum thickness 25 mm and width equal to that of the supporting construction. The framing shall be formed from materials of a rigid non-combustible nature only, i.e. ‘Thermax’ or ‘Supalux’ boards are acceptable.
  - The framing and/or grille shall be fixed using steel mechanical fixings.



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**LORIENT AIR TRANSFER GRILLES – LVN20, LVN25, LVV40, LVC40, LVH44 & LVHC44**  
**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

**Installation within masonry walls or concrete floors – LVH44 and LVHC44**

11. The LVH44 and LVHC44 air transfer grilles are approved for installation directly into masonry walls and concrete floor, or when mounted within non-combustible framing for up to 120 minutes integrity performances, subject to the following requirements:
- When fitted directly within an aperture within a masonry wall the air transfer grille will be bedded onto a layer of LORIENT acrylic based intumescent mastic.
  - Where the option for non-combustible framing is chosen the framing shall have a minimum thickness 25 mm and width equal to that of the supporting construction. The framing shall be formed from materials of a rigid non-combustible nature only, i.e. 'Thermax' or 'Supalux' boards are acceptable.
  - Grilles mounted within concrete floors shall be supported by steel angles around the full perimeter of the aperture fixed back to the concrete with steel mechanical fixings.

**Optional features**

12. Additional mild steel cover grilles may be added to the LVN20, LVN25 LVV40, LVC40, LVH44 and LVHC44 air transfer grilles. Only cover grilles supplied by the manufacturer and fitted in accordance with the manufacturer's instructions shall be acceptable.
- Inclusion of the cover grilles is mandatory for all door applications using the LVH44 and LVHC44 air transfer grilles.
13. In all instances the air transfer grilles shall be installed and fixed in accordance with the manufacturer's instructions.

**Positional requirements**

14. The following positional limitations shall be applied to all vertical applications regardless of the type of construction the grille is installed within.

<b>LVN20, LVN20S, LVN25 and LVN25S</b>	The upper edge of the grill shall be no higher than 800 mm from floor level.
<b>LVV40, LVV40S and LVC40</b>	The upper edge of the grill shall be no higher than 3000 mm from floor level. The lower edge of the grille shall be no closer than 400 mm to floor level.
<b>LVH44 and LVHC44</b>	The upper edge of the grill shall be no higher than 3000 mm from floor level. The lower edge of the grille shall be no closer than 200 mm to floor level.



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**LORIENT AIR TRANSFER AND SMOKE CONTROL GRILLES – LVN20S, LVN25S & LVV40S**

15. The approval relates to on going production. Product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number (i.e No. CF 564) and application where appropriate.
16. The following table shows the acceptable applications and fire resistance periods for the different grilles:

Approved applications - door assemblies								
Door Type	LVN20	LVN20 S	LVN25	LVN25 S	LVV40	LVC40	LVH44	LVHC44
FD30 Timber door	✓	✓	✓*	✓*	✓	✓	✗	✗
FD30S Timber door	✗	✓	✗	✓*	✗	✗	✗	✗
FD60 Timber door	✗	✓	✗	✓	✓	✓	✗	✗
FD60S Timber door	✗	✓	✗	✓	✗	✗	✗	✗
FD60 Steel door	✗	✗	✗	✗	✓	✓	✓	✓
FD60 Mineral composite door	✗	✗	✗	✗	✓	✓	✓	✓
FD120 Mineral composite door	✗	✗	✗	✗	✗	✗	✓	✓
FD120 Steel door	✗	✗	✗	✗	✗	✗	✓	✓

\* Subject to a minimum leaf thickness of 50 mm.

Approved applications – wall & floor assemblies				
Type	LVV40S	LVC40	LVH44	LVHC44
Masonry walls 60 minutes	✓	✓	✓	✓
Masonry walls 90 minutes	✓	✗	✓	✓
Masonry walls 120 minutes	✗	✗	✓	✓
Concrete floor 120 minutes	✗	✗	✓	✓

**Further Information**

Further information regarding the details contained in this certificate may be obtained from Lorient Polyproducts Limited (Tel: 01626 834252).

Further information regarding CERTIFIRE certification and other approved products can be obtained from CERTIFIRE (Tel: 01925 646777).