



Declaration of performance LUMA

Declaration of performance N0. 0336-CPR-2013/LUMA

Product: LUMA

Type: 1000x1000 through 2800x2800 (wxh) (depending on calculation program)

Natural smoke and heat exhaust ventilators (NSHEV) intended to be installed in smoke and heat control systems in buildings

Manufacturer: Brakel Aluminium b.v.

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System:

System 1

Notified factory production control certification body No. 0336 TÜV Rheinland Apeldoorn performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control and issued the certificate of conformity of the factory production control.

TÜV has distributed the following reports:

| Definition | Reportnr |
|-----------------------|----------------------------|
| Certificate Luma | 0336-CPD-5558 |
| Classification report | 2005-CVB-R0285 |
| | 2005-CVB-R0017 |
| | 2005-CvB-R0017 |
| Heat exposure B300 | 2005-CvB-R0017 |
| Aerodynamic (B) | 2005-CVB-R0017 / 16/2005 |
| | 2005-CVB-R0017 / 17-1/2005 |
| | 2005-CVB-R0017 / 17-2/2005 |
| Reliability (C) | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |
| Snowload (D) | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |
| SL + T (D+E) | 2011-Efectis-R0588 |
| Windload (F) | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |
| | 2005-CVB-R0017 |

| Definition | Reportnr |
|-----------------------|--------------------------|
| Factory control (FPC) | Audit report nr 11-34044 |



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Declared performance:

| Essential characteristics | Performance | Harmonised technical specification |
|---|--|------------------------------------|
| Nominal activation conditions/ sensitivity, as: -Initiation device -Opening mechanism -Inputs and outputs | Pass Pass Pass | EN 12101-2: 2003 |
| Response delay (response time), as: -Reliability -Opening under (snow, wind) load -Low ambient temperature -Fire performance | ≤ 60 s | |
| Operational reliability, as: -Reliability | Re 10000 DP* | |
| Effectiveness of smoke/hot gas extraction, as: -Aerodynamic free area | See report 2005-CvbB-R0017/17-1/2005 2005-CcbB-R0017/16/2005 | |
| Performance parameters under fire conditions, as: -Resistance to heat -Mechanical stability -Reaction to fire | B30030 Pass E | |
| Ability to open under environmental conditions, as: -Opening under load -Low ambient temperature -Stability under wind load -Resistance to wind-induced vibration (where included) | SL 500 T(-15) WL 1500 Pass | |
| Durability | Pass | |

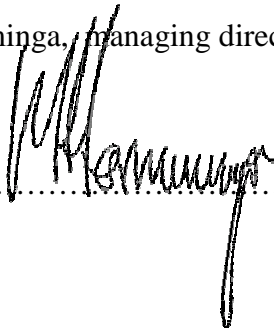
DP* = Natural ventilation and Fire ventilation (10.000x + 1000x)

De performance of the Luma is in conformity with the declared performance here above.

This declaration of performance is issued under the sole responsibility of Brakel Aluminium and contains 2 pages:

Signed for and on behalf of Brakel Aluminium by:

M. Homminga, managing director Brakel Aluminium b.v.



Uden, 6-5-2013