



Technisches Büro  
Institut für Brandschutztechnik  
und Sicherheitsforschung

# Statement

## Client

Mursall Active Coating GmbH  
Löwensternstrasse 4  
A-5411 Oberalm  
Austria

## Scope of assessment

Assessment of "PUR AIR" glass coating according to the requirements of  
EN 45545-2

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## **1. Introduction**

### **1.1 General information**

IBS – Technisches Büro GmbH, 4020 Linz received the written order from Mr. Robert Kummerer of Mursall Active Coating GmbH to prepare a fire protection statement for the assessment of the product “Pur Air”.

### **1.2 Purpose of the expert opinion**

The purpose of the statement is to show the conformity of the product “Pur Air” with the requirements of EN 45545 Part 2.

## **2. Classification and assessment criteria**

### **2.1 Operating class according to EN 45545 Part 1**

The classification into operating classes 1 to 4 depends on the operational area of use and on the infrastructure that allows the vehicle to be evacuated on its long side. This also defines the evacuation conditions for passengers and personnel. The hazard level is defined in the standard based on operating class and design class.

The highest requirement (Hazard Level 3) is used for the assessment of the material requirements in this assessment (exact area of application is not known).

### **2.2 Application of the assessment principles**

At the Client’s request, the assessment is carried out in accordance with the EN 45545 series of standards, exclusively in Part 2 in the version of 2016 and 2020.

## **3. Findings**

### **3.1 Assessment approach**

For the assessment, the client provided written documents and the required information was supplemented by specialist consultations (telephone calls) and personal communication via e-mail.



### 3.2 Object of the review

The following components have been subjected to a fire protection assessment:

- “PUR AIR” for use on untreated glass surfaces

### 3.3 Documents used as basis for the review

- PUR AIR product description leaflet
- Information by email from Dipl. Ing. Gerhoch Reisegger of 06.15.2021 and 06.23.2021
- Safety data sheet Pure Air, version 1.1 of 04.12.2021
- Safety data sheet Pure Air A, version 1.2 of 04.12.2021
- Safety data sheet Pure Air B, version 1.2 of 04.12.2021

### 3.4 Product description and description of use

The product PUR AIR is effective against ultra-fine dust, viruses, bacteria and allergens on any glass surface. After the application process, PUR AIR permanently bonds to the glass surface and cannot even be removed with any common cleaning agent.

The product is intended for use in both existing as well as new railway vehicles. It is exclusively applied in the interior and always on uncoated real glass panes.

The product is applied exclusively by specialized providers that have been trained and certified by Mursall Active Coating GmbH. The pane is coated exactly ONCE. The coating carries a 30-year warranty, whereas lifetime function (the semiconductors involved are catalysts, which do not deplete) is guaranteed. A special spraying process ensures that only the glass and not any adjacent products are coated.

A spray gun is used to lay an extremely fine coat of the product PUR AIR on the (real) glass surfaces. It is a two-component product (PUR AIR “A” & PUR AIR “B” are mixed). The mixing ratio is 50:50.

When applied to the windowpane, the material consumption when wet (i.e. during spraying) is just under 4 grams for 12 m<sup>2</sup> of window area; thus 0.33 grams per m<sup>2</sup>. A large part of this evaporates already during the spraying process (ethanol) and the amount that ultimately remains on the pane is at most half the sprayed quantity, i.e. approx. 0.17 grams per m<sup>2</sup>; of this, approx. 1/3 (estimated) remains as dry mass.

### Confirmation by the Client



### **Confirmation of findings by the Client**

The Client hereby confirms the following:

The documents and information submitted to the IBS for inspection according to Section 3 conform to the final execution of the coating.

Furthermore, it is hereby acknowledged that the versions of regulations and standards as stated in Section 2.2 were used for the assessment.

For Mursall Active Coating GmbH

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Signed for the company



## **4. Fire protection statement**

### **4.1 General information**

The fire protection statement for the product PUR AIR is based on the information provided as stated in Section 3.

### **4.2 Assessment / result**

EN 45545 of 2016 (2020) addresses in Part 2 the requirements for fire behavior of materials and components.

Based on the information from the manufacturer, the resulting combustible mass is max. 0.17 grams per m<sup>2</sup> glass surface with the drying process not included in the calculation.

Standard EN 45545-2 in the version of 2016, Section 4.3.1 lists the following requirement: "There are no requirements for components with a combustible mass of <10 g that do not contact any other non-classified components."

Standard EN 45545-2 in the version of 2020, Section 4.3.1 lists the following requirement: "There are no requirements for components with a combustible mass of ≤ 10 g that only contact components that meet the requirements pursuant to Table 2 and Table 3."

Classified components are all components as defined in Commission Decision 96/603/EC, which also includes glass (including tempered, chemically toughened, laminated and reinforced glass with wire inserts). According to EN 45545-2 in the version of 2020, laminated glass is not to be further classified if the inner organic layers are not exposed and the mass percentage of organic material is less than or equal to 6%.

On the premise that the uncoated glass panes, on which the to the product PUR AIR is to be applied, are installed in the vehicle as classified components (i.e., either classified according to the Commission Decision 96/603/EC in the amended version or as classified components according to the requirements of Table 2 of EN 45545-2) and no more than 0.17 grams per m<sup>2</sup> are applied to the pane during the application process and no other components come into contact with the coating, it can be concluded that up to an applied quantity of <10 g per continuous glass surface no requirements are to be imposed on the product PUR AIR.

Under the above-mentioned conditions, the product can thus be applied to glass surfaces with a (theoretical) individual size of up to max. 58 m<sup>2</sup> without any fire protection requirements being imposed on the resulting mass within the meaning of the standard EN 45545-2 (regardless of the applicable hazard level).



The present statement represents an isolated assessment of the product PUR AIR when applied to untreated glass surfaces in a single and exclusive application of PUR AIR. The assessment does not consider the components adjoining at the seams. If the properties of the combustible mass of PUR AIR are changed, the product must be re-assessed.

This assessment has 7 pages and it is within the Client's exclusive power of control.

## **IBS-Technisches Büro GmbH**

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Information on multiple, electronically signed documents can be found [here!](#)