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Voluntary commitment of the manufacturers of photocatalytically active products to achieve a minimum activity for the NO degradation on photocatalytically active surfaces

1. Background and goal of the voluntary commitment

Photocatalytically active construction materials and coatings can contribute to a cleaner environment and to more safety. For example, they are able to degrade environmentally harmful nitrogen oxides (NO) and other organic pollutants into harmless compounds. Thanks to special surface properties, some photocatalytically active products also have a “self-cleaning effect” and remain clean for longer.

Standards already exist in Europe for measuring photocatalytically active effects, but uniform quality standards for photocatalytically active products are still lacking. In Japan a mark has been established for some years; it helps assess the quality and efficacy of the products and thus allows an easier comparison or overview for consumers regarding their functionality. This mark was developed by PIAJ (Photocatalysis Industry Association of Japan). (For more information, visit www.piaj.gr.jp “PIAJ mark”.)

In order to enable an appraisal of the photocatalytically active effect of the products also for consumers in Germany, the member companies of the FAP (Federation of Applied Photocatalysis) took up the Japanese approach and initially elaborated a threshold value – the relative photocatalytically active efficiency (rPCE) – for the NO degradation performance of photocatalytically active products. Threshold values for further properties are planned.

Without the definition of a threshold value, no distinction is possible between sufficiently photocatalytically active products and similar products which only have minor photocatalytic activity but are claimed in advertising to have a positive effect on humans and environment. This causes confusion among consumers and lowers the standing of all photocatalytically active products.

The goal of this voluntary commitment is to contribute to sustainably ensuring good air quality and to improve the transparency for consumers. Products for photocatalytic air purification, which have a sufficiently high NO degradation and thus serve to protect environment and health through their air-cleansing effect, are awarded accordingly.

In this voluntary agreement, the term “photocatalytically active products” primarily means construction materials, paints and coatings which have a photocatalyst (usually titanium dioxide) on their surface, so that they can degrade nitrogen oxides under irradiation with UV light.

2. Testing of photocatalytic activity

The rPCE value is determined according to the technical document “Bewertung der NO-Abbauleistung von photokatalytisch aktiven Produkten” (Assessment of the NO Degradation Performance of Photocatalytically Active Products; annex 1). This technical document was



jointly developed by FAP members and external test institutes. It is available on request from the FAP.

Measuring is carried out independently by an institute. The institute must be able to perform the measuring according to the technical document and according to ISO 22197-1. A choice of suitable institutes is provided in annex 2. This list is not exhaustive and can be extended at any time.

3. Explanation

The manufacturers commit themselves to only use the product claim “photocatalytically active” if the product has an rPCE value of at least 2. In this case, the product claim

**“photocatalytically active for air purification
according to the FAP voluntary commitment”**

can be used on the products.

The testing of photocatalytic activity must be repeated by a suitable test institute at least in three-year intervals. Repeat testing becomes also necessary if changes impacting its photocatalytic activity are made to the product.

If the testing or check of photocatalytic activity shows that the efficacy of the product is below the above threshold, the permission to use the claim expires. An unjustified claim of photocatalytic activity with reference to this voluntary commitment can be persecuted under the legislation on fair trading practices. All FAP members support this voluntary commitment and state that they take part in it. (Status June 2016)

4. Individual joining of the voluntary commitment

Manufacturers, importers and distributors of photocatalytically active products for NO reduction can join this voluntary commitment by way of declaration, irrespective of membership in the FAP. This declaration is made informally on letterhead stationery of the newly joining company and needs to be sent to Fachverband angewandte Photokatalyse im Verband der Mineralfarbenindustrie e. V.

The FAP operates a list of companies which have joined the voluntary commitment.