



The photocatalytic coating has been developed by the University of Bath to provide a product which can be applied to indoor surfaces in order to neutralise Volatile Organic Compounds (VOCs) and therefore promote a healthier indoor environment. The coating is applied to a substrate by painting, rolling or spraying, and comprises titanium dioxide (anatase) particles bonded to the substrate by a polyurethane/acrylate polymer.

Name of product	Photocatalytic coating (University of Bath)		
Function of product	Neutralisation of VOCs in indoor air environments		
Form	Liquid coating which dries to a thin oxide film		
Raw Material	Titanium dioxide, polyurethane/acrylate		
Properties			
Property	Unit	Value	Test methods/standardisation
Chemical/physical properties			
Bulk density	kg/m ³	3970-4050	
Composition of materials		TiO ₂	
Structures and construction			
Dimensions of product	microns	100-250	
Mechanical properties			
Compressive strength	N/mm ²	3330-3680	
Flexural strength	N/mm ²	400-441	
Tensile strength	N/mm ²	333-368	
Shrinkage	mm/m	N/A	
Thermal properties			
Thermal conductivity	W/(m·K)	4.8-9.2	
Specific heat capacity	J/(g·K)	683-697	
Hygrothermal properties			
Water vapour diffusion resistance factor			
Moisture buffer value	kg/(m ² ·%RH)		
Water vapour permeability	kg/(m·s·Pa)		
Acoustic properties			
Sound absorption coefficient	%		
Sound reduction index	dB		
Fire Safety			
Reaction to fire		Non-flammable	
Resistance to fire	Minutes	N/A	
Environmental properties			
Embodied energy (% renewable)	MJ/kg	10.6-11.7	
GHG emissions	kg CO ₂ eq		
TVOC (SVOC)	µg/m ³	Unknown	
Radon	Bq/m ³	N/A	
Photocatalytic capacity			