

Technical Compliance Statement

Date: Nov 2019

The following LEED V4 compliance and credit summary has been developed to support the design and specification of Dulux Trade decorative paints for project teams looking to design sustainably and maximize LEED scores. Although the principle area of interest for paints and coatings in LEED is focused on indoor air quality through the specification of paints with low VOC content and low VOC emissions, there are other LEED credit areas where paints and coatings can contribute.

Indoor Environmental Quality (EQ): Low Emitting Materials

Points available: 1-3

Topline guidance for this section - choose paints with low VOC content and low VOC emissions.

1. Only specify **water-based paints for trim** such as Dulux Trade Quick Dry Undercoat and Gloss, and Dulux Trade Quick Dry Satinwood
2. Only specify wall paints that have been tested and **passed VOC emissions testing** such as Dulux Trade Vinyl Matt and Diamond Matt

VOC Content

There is a requirement for 100% of the interior paints and coatings used to meet VOC content limits in order to qualify for any of the available credits, products wet-applied on-site must not contain excessive levels of VOC. For projects outside of the U.S., products must meet applicable national VOC control regulations. In the UK, the applicable regulation is the European Decopaint Directive (2004/42/EC). AkzoNobel uses its own calculation following CEPE guidelines. All AkzoNobel coatings in the UK meet this requirement.

VOC Emissions

There is a maximum of 3 credits available in this section. Credit calculation criteria are quite complicated, but essentially the more product categories from the list below that meet required emissions limits, the more credits are awarded:

- Interior paints and coatings
- Interior adhesives and sealants
- Flooring
- Composite wood
- Ceilings, walls, thermal, and acoustic insulation
- Furniture
- Exterior applied products (Healthcare and Schools Projects only)

For interior paints to qualify, at least 75% by volume or surface area must meet emissions limits.

There are 2 options to test for VOC emissions.

Option 1: VOC emissions must meet the limits as set out in California Department of Public Health (CDPH) standard method. Products must have undergone Formaldehyde, Carcinogens and Target VOCs emissions testing. Also, the range of TVOCs after 14 days must be reported (TVOC ranges: 0.5 mg/m³ or less, between 0.5 and 5 mg/m³, or 5 mg/m³ or more). Products used in school classrooms must be evaluated using classroom scenario and products used in other spaces must be evaluated using the default private office scenario.

Option 2 : VOC emissions must be tested according to EN 16516:2017 and comply with 1) the LCI values from the German AgBB Testing and Evaluation Scheme (2015) and 2) a formaldehyde limit of 10 micrograms per cubic meter. At AkzoNobel, we use Indoor Air Comfort Gold (which is tested according to EN 16516:2017 and contain the German AgBB test). Products must have undergone VOC emissions testing after 3 and 28 days and the range of TVOCs after 28 days must be reported (TVOC ranges: 0.5 mg/m³ or less, between 0.5 and 5 mg/m³, or 5 mg/m³ or more). Products tested should comply with the LCI values from the German AgBB Testing and Evaluation Scheme (2015) and a formaldehyde limit of 10 micrograms per cubic meter. The following table shows which Dulux Trade products can be used when targeting these credits and which testing method has been used.

LEED VOC Emissions criteria	Test done	Product
Dulux Trade Fast Matt	CDPH	Pass (0.5 mg/m ³ or less)
Dulux Trade Supermatt	CDPH	Fail
Dulux Trade Vinyl Matt	CDPH	Pass (5 mg/m ³ or more)
Dulux Trade Durable Flat Matt	CDPH	Pass (between 0.5 and 5 mg/m ³)
Dulux Trade Diamond Matt	CDPH	Pass (between 0.5 and 5 mg/m ³)
Dulux Trade Diamond Eggshell	CDPH	Pass (between 0.5 and 5 mg/m ³)
Dulux Trade Super Grip Primer	CDPH	Pass (0.5 mg/m ³ or less)
Dulux Trade Dry Wall Primer Sealer	CDPH	Pass (between 0.5 and 5 mg/m ³)
Dulux Trade Mouldshield Fungicidal Matt	CDPH	Pass (between 0.5 and 5 mg/m ³)
Dulux Trade Quick DryWood Primer Undercoat	IAC Gold	Pass (0.5 mg/m ³ or less)
Dulux Trade Quick Dry Undercoat	IAC Gold	Pass (0.5 mg/m ³ or less)
Dulux Trade Quick Dry Satinwood	IAC Gold	Pass (0.5 mg/m ³ or less)
Dulux Trade Quick Dry Gloss	IAC Gold	Pass (0.5 mg/m ³ or less)
Dulux Trade Diamond Satinwood	IAC Gold	Pass (5 mg/m ³ or more)
Armstead Trade Contract Matt White	IAC Gold	Pass (0.5 mg/m ³ or less)

Note 1 – all these products comply with VOC Content level requirements
 Note 2 - additional products undergoing testing
 Note 3 – see Appendix A for exact values and test used
 Note 4 – Laboratory testing done by test house accredited under ISO guide 17065

Materials and Resources (MR): Building Product Disclosure and Optimization – Environmental Product Declarations

Points available: 1-2

Specify products with third party certified Environmental Product Declarations (EPDs) that conform to ISO 14025. The following Dulux Trade products have EPDs which meet these requirements:

Interior Walls and Ceilings	Interior Woodwork and Metalwork (Trim):
Dulux Trade Dry Wall Primer Sealer	Dulux Trade Quick Dry Undercoat
Dulux Trade Supermatt	Dulux Trade Quick Dry Gloss
Dulux Trade Vinyl Matt	Dulux Trade Quick Dry Satinwood
Dulux Trade Diamond Eggshell	Dulux Trade Quick Dry Wood Primer Undercoat
Dulux Trade Diamond High Performance Eggshell	Interior and Exterior Metalwork:
Dulux Trade Diamond Matt	Dulux Trade Metalshield Zinc Phosphate Primer
Dulux Trade Sterishield Diamond Matt	Dulux Trade Metalshield Gloss
Dulux Trade Sterishield Diamond Eggshell	Dulux Trade Metalshield Satin
Dulux Trade Evolve Matt	Exterior Woodwork:
Dulux Trade Fast Matt	Dulux Trade Weathershield Exterior Flex Undercoat
Dulux Trade Mouldshield Fungicidal Matt	Dulux Trade Weathershield Exterior High Gloss
Interior and Exterior Primer	Dulux Trade Weathershield Quick Dry Exterior Undercoat
Dulux Trade Super Grip Primer	Dulux Trade Weathershield Quick Dry Exterior Gloss
Exterior Walls:	Dulux Trade Weathershield Quick Dry Exterior Satin
Dulux Trade Weathershield Smooth Masonry	

Materials and Resources (MR) Prerequisite: Construction and Demolition Waste Management Planning

Required credit – must include at least 5 materials

Construction and demolition waste management plan: Add empty paint cans, leftover paint and used decorating sundries to resource management plan to minimize decorating waste produced on site and increase % diversion from landfill.

Empty Paint Can Recycling

Can recycling services are available from most decorators merchants including the FOC service available via the nationwide network of Dulux Decorator Centres. Add in the following can recycling clause (below in italics) to your specifications or tender documents to contribute to resource efficiency and diversion from landfill. Click [here](#) for further information on the Dulux Decorator Centres scheme.

Can Recycling

'Recycle all empty cans at one of the many decorators merchant outlets operating a can recycling service'

If you have any additional questions or require testing certificates, please contact the Dulux Technical Advice Centre:

Tel. – 0333 222 7171
Email – duluxtrade.advice@akzonobel.com

Signed on behalf of AkzoNobel (UK Decorative Paints):



Duncan Lochhead
Commercial Sustainability Manager



Dr Yasmine Willener
Quality and Regulations Manager, Trade Marketing

Appendix A – TVOC & Formaldehyde results -CDPH

Product	CDPH TVOC concentration (mg/m3)		Formaldehyde concentration (mg/m3)		Number of layers	Application amount per layer (g/m ²)
	Classroom @14 days	Office room @14 days	Classroom @14 days	Office room @14 days		
Dulux Trade Fast Matt	0.009	0.028	0.002	0.008	2	83
Dulux Trade Dry Wall Primer Sealer White	0.36	1.2	<0.002	<0.005	2	86
Dulux Trade Diamond Satinwood	2.5	8	<0.002	<0.005	2	106
Dulux Trade Mouldshield Fungicidal Matt	0.18	0.58	<0.002	<0.005	2	85
Dulux Trade Durable Flat Matt	0.43	1.4	<0.002	<0.005	2	85
Dulux Trade Vinyl Matt	1.8	5.9	<0.002	<0.005	2	86
Dulux Trade Diamond Eggshell	1.5	4.8	<0.002	<0.004	2	81
Dulux Trade Diamond Matt	1.4	4.7	<0.002	<0.004	2	89
Dulux Trade Super matt	0.13	0.43	0.003	0.01	2	80

Note 1 - Formaldehyde tested according to ISO 16000-3:2011, EN 717-1, EN 16516:2017

Appendix B – TVOC & Formaldehyde results -IAC Gold

Product	IAC GOLD TVOC concentration (mg/m3)	IAC GOLD Formaldehyde concentration (mg/m3) ¹	Number of layers	Application amount per layer (g/m ²)
	28 days	28 days		
Dulux Trade Super Grip Primer	<0.005	<10	1	78
Dulux Trade Quick Dry Undercoat	0.019	<10	2	140
Dulux Trade Quick Dry Satinwood	0.025	<10	2	100
Dulux Trade Quick Dry Gloss	0.025	<10	2	110
Dulux Trade QD Woodprimer undercoat	0.087	<10	2	110
Armstead Trade Contract Matt	0.006	<10	2	94

Note 1 - Formaldehyde tested according to ISO 16000-3:2011, EN 717-1, EN 16516:2017

Appendix C - Zero VOC Paints – US v Europe definition

Excerpt from British Coatings Federation open letter 'Zero VOC Paints – are they really better for the environment?'

In an ever more competitive marketplace, paint companies are looking for new and different ways to stand out, including promoting the green credentials of their products. One criteria that has been used (or perhaps more accurately mis-used) as a differentiator in recent years is Volatile Organic Compound (VOC) content.

Paint is made up of a number of components. Some of these may be of natural origin (such as minerals, chalk, clays or natural oils), other components (such as binders, pigments and additives) are more often synthetically-derived from different industrial chemical processes. All these components need to undergo some degree of washing, refinement, processing or chemical treatment, so they can be successfully used to make paint. These production steps necessitate the use of different process aids, including substances that are classed as VOCs. Although every effort is made to remove these VOCs through drying and purifying, there will still be trace amounts in the finished raw materials that are used to make the paint and the tinting pastes that are needed to be used. Therefore, there is no such thing as a truly 100% VOC-free or Zero VOC paint, as all paints will contain very small (trace) amounts of VOCs through their raw materials.

Unfortunately, there are several paint suppliers in the UK that are persisting with the use of Zero VOC / VOC-free claims for their products, despite the industry's best efforts to bring the issue to their attention. Several media articles have referred to paint below a certain VOC content (e.g. paints containing less than 0.2% VOC), being regarded as VOC-free, however this is incorrect and is certainly not a recognised approach within the UK paint industry or in Europe. **The mis-use of Zero VOC terminology in the US is also having an impact on the UK coatings sector, as they commonly label any paints with less than 5g / litre as 'Zero VOC' products**, and some companies are importing such paints into the UK market. The use of these claims for paints is therefore both incorrect and unjustifiable – there is no definition for 'VOC-free', nor recognised analytical test that can be used to demonstrate a paint as having zero VOC content.

For further information, please contact Trevor Fielding, Regulatory Affairs Manager at the British Coatings Federation, trevor.fielding@bcf.co.uk, www.coatings.org.uk.