

7.30 Solvent content in products 1: Decorative coatings

7.30.1 Coverage

Decorative paints are applied in situ to buildings.

7.30.2 Emission sources

VOC emissions from decorative paint use come from evaporation of VOCs, which may be present as necessary components of the supplied paint or added before application of solvent based paints to reduce viscosity (thinners) or used as cleaning solvents [3].

All unrecovered VOCs can be considered as potential emissions. The major factor affecting these emissions is the amount of VOC in the ready for use paint. Paints can be water based - where the viscosity can be reduced by addition of water - or solvent based where the viscosity is reduced by addition of solvent.

Conventional solvent based decorative paints typically contained around 50% solids and 50% organic solvent. The VOC limits of the Product Directive 2004/42/EC [1] require adoption of lower VOC products.

7.30.3 Available techniques, Achievable Solvent Concentrations

Decorative paint VOC emissions result from use of the ready for use paint and from cleaning of equipment where this is done with solvents. VOC emissions can be reduced by adoption of lower VOC paint e.g. by switching use of conventional solvent based paint to lower VOC water based paint or by adopting lower VOC solvent based paints. The maximum VOC contents permitted under the phase II of the Product Directive 2004/42/EC are defined by product category in table 1 below.

Table 1: Achievable solvent concentrations for each type of paint

Product Subcategory	Type	Phase II (g/l)*
Interior matt wall and ceilings (Gloss ≤ 25@60°)	WB	30
	SB	30
Interior glossy walls and ceilings (Gloss > 25@60°)	WB	100
	SB	100
Exterior walls of mineral substrate	WB	40
	SB	430
Interior/exterior trim and cladding paints for wood and metal	WB	130
	SB	300
Interior/exterior trim varnishes and woodstains, including opaque woodstains	WB	130
	SB	700
Primers	WB	30
	SB	350
Binding primers	WB	30
	SB	750
One pack performance coatings	WB	140
	SB	500
2 pack reactive performance coatings for specific end use	WB	140
	SB	500
Multi-coloured coatings	WB	100
	SB	100

Decorative effects coatings	WB	200
	SB	200

* g/l ready to use

With the exceptions of solvent based interior wall paints, the European Decorative paints industry believes that in practice these VOC's should be achievable.

Interior wall paints will become entirely water based as the 30g/l and 100g/l limits will not be practically achievable with solvent based products [3].

7.30.4 Cost data

Costs are defined in the EGTEI background document concerning "decorative paint" [2]. According to CEPE [3], this document is outdated. CEPE has prepared a document covering the costs of relabeling products: this document is available to the group [4].

7.30.5 Emerging techniques

No data is available.

7.30.6 References used for chapter 7.30

[1] Directive 2004/42/EC of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in decorative paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

[2] EGTEI background document: Decorative paint – 2003

[3] J. WARNON – CEPE – 02/03/2009

[4] Cost impact of Directive 2004/42/EC. CEPE estimate of relabeling costs for the changes in 2010 for Decorative paints