

Paints

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Extraction and manufacture			
Impact of extraction	Varies by manufacturer		
Embodied carbon and embodied energy	Material	Embodied carbon kg CO₂eq/m²	Embodied energy (total) MJ (NCV)/m²
	Paint, waterborne, walls (Dulux Wash&Wear® low sheen – vivid white), 2 coats	0.37	6.37
	Paint, waterborne, walls (Dulux Wash&Wear® matt – vivid white), 2 coats	0.36	6.02
	Paint, waterborne, walls (Dulux Wash&Wear® semi-gloss – vivid white), 2 coats	0.38	6.61
	Paint, waterborne, walls (Dulux Wash&Wear® gloss – vivid white), 2 coats	0.45	8.27
	Paint, waterborne, walls (Dulux Wash&Wear® +Plus anti bac low sheen – vivid white), 2 coats	0.37	6.39
	Paint, waterborne, walls (Dulux Wash&Wear® +Plus kitchen and bathroom semi gloss – vivid white), 2 coats	0.38	6.62
	Paint, waterborne, walls (Dulux Wash&Wear® +Plus kitchen and bathroom low sheen – vivid white), 2 coats	0.38	6.75
	Paint, waterborne, walls (Dulux Wash&Wear® +plus super hide low sheen – vivid white), 2 coats	0.39	6.7
	Paint, waterborne, walls (Dulux Wash&Wear® +plus super tough low sheen (parts A&B) – vivid white), 2 coats	0.50	8.90
	Paint, waterborne, ceilings (Dulux Wash&Wear® kitchen & bathroom ceiling flat), 2 coats	0.39	6.28
	Paint, water-based acrylic primer/undercoat (Dulux acrylic sealer undercoat), 1 coat	0.19	3.45
	Paint, water-based acrylic primer/undercoat (Dulux professional® total prep), 1 coat	0.21	4.03
<p>The figures are taken from BRANZ CO₂NSTRUCT v1 June 2019. You can download the data and find explanatory details at: www.branz.co.nz/environment-zero-carbon-research/framework/branz-co2nstruct/</p> <p>Substantially more data is embedded (but not visible) in the BRANZ tool LCA Quick: www.branz.co.nz/environment-zero-carbon-research/framework/lcaquick/</p> <p>In general, solvent-borne paints have higher embodied energy than water-borne paints.</p>			

Sourcing	
Material sources	Paints are made in Wellington and Auckland from local and imported ingredients. Specialised coatings may be imported.
Availability	A wide range of paints is available throughout New Zealand.
Cost	Varies widely with quality, type and colour. Specialist coatings for fire and corrosion protection are expensive.
Transport to site	Paint is lightweight to transport and handle.
Construction/installation	
Health and safety during construction/installation	Paints give off volatile compounds which can contribute to asthma and other health problems. Even paints that can be labelled “low-toxic” may contain up to 250 volatile organic compounds per litre.
Ease of construction/ installation	Painting is labour intensive.
Adaptability	A painted surface can be easily repainted.
Performance	
Health and safety during life of building	Though paint fumes are strongest while the paint is wet or drying, paints can continue to give off volatile compounds long after they are dry. Generally levels of paint fumes are less with water-borne paint formulations.
Structural capability	Nil – not a structural element.
Durability*	Durability depends on base material, preparation, paint type, colour and surface orientation. As rules of thumb, for north-facing walls, light-coloured paint will last 5-7 years on timber and 8-10 years on plaster, and penetrating stain on timber around three years.
Maintenance rating	Regular recoating is required.
Moisture resistance	Moisture resistance is good if the paint coating is well applied and maintained.
Rot, mould and corrosion	Lichens and mosses will grow on damp, weathered surfaces.
Thermal performance	No contribution
Sound insulation	Nil
Waste disposal/recycling/re-use	
Re-use	Paint can't be re-used after application but paint cans can.
Recycling	Unused paint and paint cans can be recycled (the larger paint suppliers offer a return service, either for all customers or for trade painters).
Waste disposal	Unused paint if not able to be sent for recycling and particularly solvent borne should be disposed of as hazardous waste.

* with normal maintenance