



***DUROPAL***<sup>®</sup>

DUROBOARD E1 HMR PARTICLEBOARD

Technical Information

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# PRODUCT DESCRIPTION & APPLICATIONS

Urea-resin based, low formaldehyde, triple-layer chipboard, emission category E1. Manufactured without addition of chlorides, other halogens or wood protective agents.

Duroboard MFC is produced in environment friendly, state of the art factories and is available in 16mm thicknesses and board sizes suitable for interior applications. The available designs are colour matched to Duropal High Pressure Decorative laminate. This enables the specifier to maintain a harmonious combination when using both products together.

The common size locally stocked is 2655 x 2100 x 16mm V100 E1 and 25m V20 E0 (cut sizes available upon application)

V100 - refers to the high moisture resistant substrate  
 E0 - refers to the level of formaldehyde within the resins in the particleboard (E0 = No emission)

E1 - refers to the level of formaldehyde within the resins in the particleboard - (E1 = 1ppm as per DIN 6875 Standard) exceeding ISO Australian and New Zealand standards -the safest and lowest rating for decorative board. For more information please refer to the National Occupational Health and Safety Commission website:

**[www.nohsc.gov.au/ohsinformation/databases/exposurestandards/az/formaldehyde.htm](http://www.nohsc.gov.au/ohsinformation/databases/exposurestandards/az/formaldehyde.htm)**

**Applications.**

For interiors including:

- kitchens
- furniture
- wardrobes
- office work-stations
- shop fitting
- hospitality
- food preparation areas
- schools.

With its insulation properties Duroboard MFC can be used for interior wall cladding, sound-proofing and partitioning. Its wipe clean sealed surface ensures very low maintenance, whilst open edges can be closed by applying Durotrim matching 0.4mm melamine or 2mm pvc edgings. Today more sophisticated edging is also available like Durotrim Decorative 2mm pvc or 2mm 3D acrylic, either colour matched or contrast to highlight the edge design.

Duroboard is Hygienic and easy to maintain, anti-static, non-fade, heat-resistant, resistant to abrasion, impact and wear.

Immune to the effects of general household fluids, pastes etc. (see table: Resistance to Stains). Physiologically innocuous; Authorised for use in direct contact with food.

DUROBOARD MFC	Sizes in mm		Thickness in mm
	Grade/Product	Length	Thickness
V100 - Moisture resistant E1 - Formaldehyde level. 0.625mpm	2650	2100	16 & 25
	2650	1300	16
	2650	800	16



**Density :** 620-800kg/m<sup>3</sup> per DIN 52 361

**Ignition Temperature:** Approx. 330°C

Formaldehyde content of the particleboard complies with emission category E1. Perforator index in perceived semi-annual average is below 0.65mg/100g board.

**Wood Used**

Natural wood, mainly conifer. The proportion of oak and beech is between 1% and 10%.

**Bonding Agent**

Amino-plastic resins, ammonium sulphate as hardener.

**Other additives**

Paraffin as water-repellant.

**Transport**

Non-dangerous cargo. Protect from moisture (possible reduction in quality).

**Protective measures, storage and handling**

Technical Protective Measures – storage in dry, well-aired rooms on level base (palettes, or level bearers).

Personal Protection – no special requirements.

Hygiene – no special requirements.

**Toxological Details**

DUROPAL® E1 particleboard is not toxic within the meaning of the Regulations Governing Dangerous Substances.

**Ecological Details**

DUROPAL® E1 particleboard is ecologically safe. The manufacture and use of particleboard is an important ecological use of wood.

# PHYSICAL AND SAFETY CHARACTERISTICS

DESCRIPTION	Requirements	ISO AS/NZS 1859.1.1997 or DIN 68765	Duroboard Characteristics
Permissible deviation in length and width	Standard boards Rough cuts	$\pm 5\text{mm}$ $\pm 2.5\text{mm}$	Standard boards $\leq \pm 5\text{mm}$ Rough cuts $\leq \pm 2.5\text{mm}$
Permissible deviation from square	Standard boards Rough cuts	$\pm 5\text{mm}$ $\pm 2.5\text{mm}$	2.5mm / 1000mm side length
Permissible deviation in board thickness	Class 1 Class 2	15.7-16.5mm 15.7-16.5mm	Class 1 15.8-16.3mm Class 2 16.0-16.5mm
Permissible deviation from flat	No requirements		$\leq 2\text{mm}$ / 1000mm measured vertically
Edge structure	Standard boards break out up to 5mm Rough cuts break out up to 3mm		Standard boards $\leq 5\text{mm}$ Rough cuts $\leq 3\text{mm}$
Thickness of decorative surface	Class 1 Class 2*	$\leq 0.14\text{mm}$ $\leq 0.14\text{mm}$	Class 1 $\leq 0.14\text{mm}$ Class2* $\leq 0.14\text{mm}$
	*Surface thickness of more than 0.14mm, Class 2 is usually reached when in addition to the decor film a barrier film (2-sheet structure) is used.		
Formaldehyde emission	MFG not exceed an emission 1ppm		<b>0.625ppm</b>
Bending strength	Class 1 Class 2	$> 16\text{N/mm}^2$ $> 17\text{N/mm}^2$	Class 1 $> 16\text{N/mm}^2$ Class 2 $> 17\text{N/mm}^2$
Tensile strength vertical to the plane	0.35N/mm <sup>2</sup>		$\geq 0.35\text{N/mm}^2$
Resistance to cracking	Susceptibility Grade 2 not permissible Susceptibility Grade 1 permitted		$\leq$ Grade 1
Dimensions tolerance at 20°C change in temperature	Max.0.6%		$\leq 0.6\%$
Resistance to hot pans	Class 2 no change (except for alteration in gloss) Class 1 no requirements		No change (possible alteration in gloss)
Resistance to steam	No change (except for alteration in gloss)		No change (possible alteration in gloss)
Resistance to wear	Range from 50 to $\leq 650$ revs		$> 50$ revs
Resistance to cigarette burns	Z categorisation, no permanent change (except for alteration in gloss)		Z categorisation, no permanent change (except for alteration in gloss)
Resistance to light	At least Level 6		$\geq$ Level 6
Resistance to scratch marks	Pressure of 1.5N no marks		$> 1.5\text{N}$
Swelling 2 hours	Max 8% / 2hrs		$\leq 8\%$ / 2hrs
Density	No requirements		Approx. 670kg/m <sup>3</sup>
Resistance to peeling	1.0N/mm <sup>2</sup>		$\geq 1.0\text{N/mm}^2$
Screw-retention vertical to board plane	No requirements		$> 800\text{N}$ (screw 4mm 15mm depth)
Board moisture on delivery	5 - 11%		5 - 9%

The quoted technical data are average values, slight deviations are possible due to manufacturing techniques.

## RESISTANCE TO STAINS

Requirements per DIN 68765-4.11. Duroboard MFC's must be resistant to the staining materials (per DIN 53799-4.14.2, Groups 1 and 2) Exceeds ISO Australian standards listed in the table below. This also includes the requirements of Group 1A per DIN 68861, Part 1.

Substance	Checked in accordance with	Period of contact
Acetone Ethyl alcohol 96% Trichlorethane Benzine Toothpaste Hand cream Alcoholic beverages (white wine, beer) Natural fruit and vegetable juices Lemonade and fruit drinks Meat Animal and vegetable fats, oils Water Yeast in water Saturated salt solution (sodium chloride) Mustard Soap Solution Cleaning solution as per DIN 68861, part 1 Urine Phenolic and chloramine disinfectant solutions Stain and dye removers based on organic solvents Milk (all types) Citric acid solution (10%) Cola Red wine Wine vinegar Caustic soda (10%) Hydrogen peroxide (3%) Ammonia (3%) Nail varnish remover Lipstick Water-based paints Water-resistant inks Ball-pen ink (permanent)	DIN 53799-4.14.5 The substances were applied at room temperature	16 hours
Coffee - (120g coffee per litre of water) Tea - (9g tea per litre of water)	DIN 53799-4.14.5 Application substances approx. 80°C	16 hours

Australian Distribution Network: [www.duropal.com.au](http://www.duropal.com.au)

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