



Markerboard Projection Surfaces - P

Description

PolyVision's e³ environmental ceramicsteel™ surface is the industry's premiere ecologically intelligent projection surface. Delivering exceptional quality and durability, combined with environmental responsibility, e³ environmental ceramicsteel surface is the first and only surface to achieve Cradle to Cradle™ Silver certification.

e³ environmental ceramicsteel type e³ P is produced by means of an ISO 9001, ISO 14001 and OHSAS 18001 compliant, continuous coil-coating process, consisting of a steel core of 0,32 or 0,35 mm covered on both sides with thin enamel coatings. Type e³ P is mainly used as projection surface with writing facilities for drymarkers, with wet erasability.

Advantages

The e³ environmental ceramicsteel surface type e³ P can be ordered in white or grey. It combines excellent (LCD, video) projection properties with a good wet erasability, wear resistance, durability and product lifetime. Due to these properties the superb projection quality is maintained during the whole lifetime of the product. The surface itself is incombustible and provides no toxic fumes in case of fire. The surface allows messages to be attached by permanent magnets and can be delivered with ceramic screen printed patterns, lines, logo's or other information. Drymarker writing can be removed with a damp cloth, or PolyVision chalkboard cleaner.

Other features of e³ environmental ceramicsteel surface type e³ P are:

- Total amount of heavy metals cadmium, mercury, hexavalent chromium and lead is less than 0,1 %.
- All coatings are free from arsenic and antimony.
- No Volatile Organic Compounds (VOCs).
- 99 % recyclable.

Specification example

The projection surface should be made of light gauge steel coated in a continuous coil coating process with enamel coatings fired at temperatures of approximately 700 °C. The surface gloss expressed in gloss units GU should be 13 (+3 /-3) when measured with a 60° gloss meter according to ISO 2813 / ASTM D523.

The surface should be 0,50 ± 0,05 mm thick, incombustible, suitable for magnetic attachment of messages, free from arsenic and antimony and the total amount of heavy metals cadmium, mercury, hexavalent chromium and lead should be less than 0,1 %. The quality of daylight projection, brightness of the image and the wet erasability of drymarker writings should be good during the whole lifetime of the product. The surface should meet all requirements specified in (i) chapter 7.16 of the EEA (European Enameling Authority – UK, GE, AU, NL, BE) and (ii) PEI 1002.

Therefore the surface has to meet the following quality requirements:

Property	Specification	Value
Surface hardness	EN 101	Min. 5
Wear resistance	ASTM C 501 (Abrasive S 33/1 kg/1.000 revs.)	Max. 0,1 g

Maintenance

Projection screens featuring e³ environmental ceramicsteel require only minium maintenance. Drymarker writings can be wiped with water or special chalkboard cleaner without problems. Permanent marker writings are irrevocably and only superficially eraseable. For further maintenance, contact PolyVision.

Properties of standard *e³ environmental ceramicsteel™* for daylight projection screen applications (P)

PROPERTY	SPECIFICATION	VALUE
1. Thickness enamel top coatings (typical)	ISO 2178 / ASTM B499	±120 µm
2. Steel thickness		0,32 or 0,35 mm
3. Thickness back side enamel coatings (typical)	ISO 2178 / ASTM B499	±40 µm
4. Total thickness		0,50 ± 0,05 mm
5. Weight (typical)		ca. 2,8 to 3,2 kg/m ²
6. Colour deviation from standard	ISO 7724 / ASTM D2244-02	ΔE ₉₄ [*] = 1,5 max.
7. Gloss (typical)	ISO 2813 / ASTM D523 60°	13 (+3/-3) GU
8. Surface hardness	EN 101	Min. 5
9. Wear resistance	ASTM C 501 (Abrasive S 33/1 kg/1.000 revs.)	Max. 0,1 g
10. Impact resistance	ISO 4532 (< 2 mm)	Min. 20 N
11. Solvent test: toluene, methylethylketone, ethylalcohol, petroleum, grease, oil, ethylacetate or xylene	Dip 25 °C, 1.000 hrs.	No change
12. Fire resistance	BS 476-6 / BS 476-7	Incombustible - Class 0
13. Colour stability	ASTM C 538	No colour change
14. Dry-erasability of drymarkers	PVNV 41.803	Poor
15. Erasability of drymarkers with special chalkboard cleaner		Good
16. Erasability of drymarkers with water		Good
17. European Enamel Authority certified	EEA 7.16	Fulfilled
18. ISO 9001 certified	ISO 9001	Fulfilled
19. ISO 14001 certified	ISO 14001	Fulfilled
20. OHSAS 18001 certified	OHSAS 18001	Fulfilled
21. MBDC Cradle to Cradle certified	Cradle to Cradle Silver	Fulfilled
22. PEI 1002 compliant	PEI 1002	Fulfilled

All certificates, product and test requirements mentioned above are taken up in the PolyVision NV integrated management system. Several times, this management system has been audited successfully by the international accreditation body LLoyd's LRQA. It is our policy that this or an equivalent accreditation body will continue to audit our company with respect to continuous compliance with and continuation of these certificates and requirements. In this way we can assure our customers on a continuous base our high quality standard level in agreement with the international quality standards.

Conclusion

The *e³ environmental ceramicsteel* projection surface is warranted under PolyVision's Forever Warranty to provide a lifetime of durability and superior performance, resulting in low maintenance costs and a high return on investment.

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Environmental Policy: PolyVision strives for continuous improvement in all areas of environmental stewardship – responsible use of raw materials and natural resources, design processes and operation of all facilities – to protect, replenish, and restore the communities in which we live and serve.

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