

Premium Writing Surfaces

Coils + Sheets

Americas



CeramicSteel





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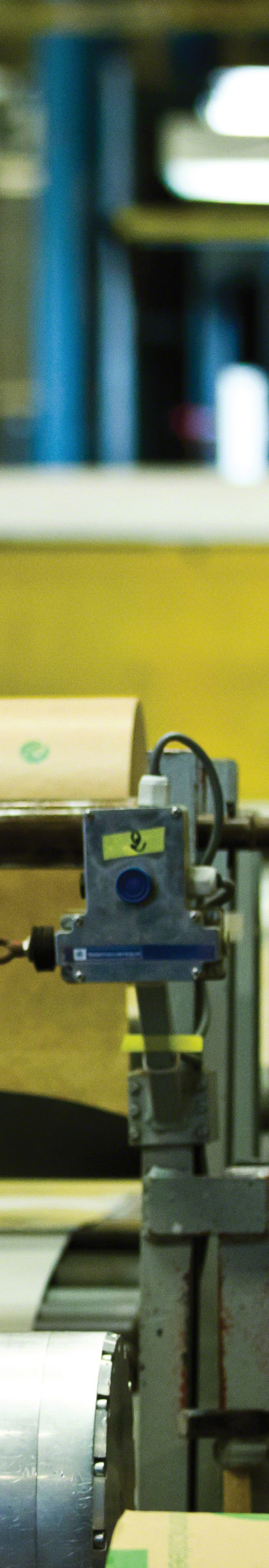
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Cleaning + Care







Made to Last

A History of Innovation

For over 60 years, Polyvision has consistently produced durable and sustainable CeramicSteel surfaces for whiteboard, chalkboard and architectural applications that stand the test of time in the most demanding environments. Our mission, to make the world a better place by creating products that enhance visual experiences and connect people to their environments, drives the passion of our people. With state-of-the-art manufacturing facilities in Oklahoma, USA and Genk, Belgium, and sales offices all over the world, Polyvision provides high quality products and exceptional customer service.

The Science of Surface

CeramicSteel is one of the most durable surfaces available, combining the best qualities of porcelain enamel and steel to create a surface that is unmatched in the industry. Through a high-temperature continuous coil-coating process, a light gauge steel core is covered with thin coats of enamel on both sides. The porcelain enamel ceramic finish is fused to the steel at a temperature in the range of 700–900°C (1292–1652°F). The result is e³ CeramicSteel — an inherently magnetic, inorganic and nonporous writing surface resistant to stains, scratches, bacteria, chemicals and fire.

CeramicSteel is used in more than 25 million classrooms and impacts more than 500 million students each day. Since 1954, Polyvision's e³ CeramicSteel has been an industry-leading surface for long-lasting, versatile writing material.





Hygienic Surface

CeramicSteel is a nonporous surface that is naturally resistant to bacteria and viruses. Coils, sheets and panels are available in Polyvision's Hygienic CeramicSteel — a proprietary finish that incorporates an additive of silver micro particles formulated to create a self-sanitizing surface.

Sustainable

Polyvision's e³ CeramicSteel is Cradle to Cradle Certified™ Bronze, highlighting the sustainable manufacturing process of the product. CeramicSteel is also 99.9% recyclable. CeramicSteel is also certified by SCS Global Services as Indoor Advantage Gold™, meeting strict indoor air quality (IAQ) chemical emission limits for volatile organic compounds (VOCs).

Customizable

CeramicSteel can be customized to support specific sheet sizes, custom colors and digital printing. Incorporate our material into your whiteboard design for premium aesthetics and functionality.

CeramicSteel Features and Benefits

- Smooth, inert surface
- Made from inorganic materials
- Magnetic
- Colorfast, will never fade
- Resistant to bacteria, graffiti, fire, scratches, stains, and chemicals
- Easy to clean
- Releases zero VOCs

Hygienic CeramicSteel

Polyvision CeramicSteel has been bacteria-resistant since inception. Thanks to the smooth, non-porous and scratch resistant nature of the surface, there is nowhere for germs to hide.

The all new Hygienic surface takes CeramicSteel to the next level by incorporating an additive of silver micro particles designed to keep the surface clean, and are tested according to ISO 22196:2011 and ISO 21702:2019.

Antimicrobial Features

- Eliminates bacteria and viruses on the surface within 24 hours
- Odorless and colorless
- Scratch resistant
- Silver particles are safe and non-transferable from the surface
- Lifetime warranty on the surface
- Environmentally safe
- Inorganic, smooth, nonporous surface
- Standard and highly potent cleaning solutions used for disinfecting and sanitizing will not damage the surface or the silver

How does Silver Ion Technology Work?

Since ancient times, silver has been known to keep surfaces clean. Ancient civilizations used the metal to treat open wounds and early pioneers used silver to keep water barrels fresh.

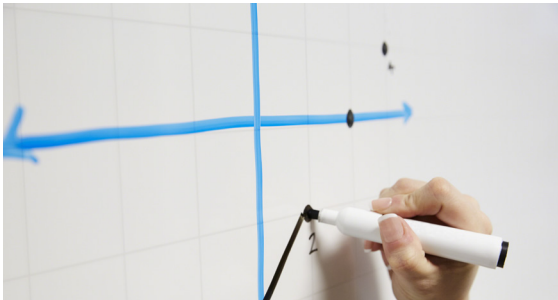
Today, silver ions are used in a variety of medical and non-medical products as well as clinically tested skincare products.

These silver microparticles slowly release silver ions over time and will actively work to keep the surface bacteria- and virus-free for the lifetime of the product. This makes it ideal for use in demanding environments where cleanliness is vital.

Hygienic CeramicSteel adheres to testing standards of ISO 22196:2011/22196:2007 and ISO 21702:2019



Superior, Sustainable Surfaces



Markerboard

Our whiteboard material is so impermeable, it can be written on with dry erase, semi-permanent, water soluble or permanent marker without damaging the surface. Dry erase marker ink can be wiped off easily with a dry cloth or standard eraser and semi-permanent or permanent marker inks can be removed with a solvent-based cleaner. The ultra-smooth writing surface, which can also be used for projection, enables dry erase markers to glide easily with minimal friction, eliminating ghosting and improving erasability.



Chalkboard

e³ CeramicSteel chalkboard surfaces have a superior matte finish that readily accepts chalk, providing a sharp, unbroken line with less pressure and maximum surface adherence. The smooth, blemish-free surface yields less chalk dust for a cleaner, healthier environment, while the ultra-matte appearance eases eye strain with no glare and high contrast.

Corporate Responsibility

Polyvision believes that sustainability is an important business practice in today's global economy. In line with this belief, we strive for continuous improvement in all areas of environmental stewardship — responsible use of raw materials and natural resources, manufacturing processes and operation of all facilities — to reduce the impact of our activities on the environment. In the end, we believe we are all in this together, working to protect and cultivate the world we live in to make more sustainable choices.



Manufacturing Excellence

All Polyvision facilities are compliant with international standards and certified for Quality, Environment, Health and Safety. Our environmental goals aim to reduce and manage our global environment footprint in the areas of VOC emission, water use, waste output and CO₂ emission.

- ISO 9001 Quality Management Systems Certification
- ISO 45001 Occupational Health & Safety Management Certification



Ensuring A Sustainable Future

In addition to safe and sustainable manufacturing processes, Polyvision holds our products to the highest standards. We are third-party certified for our CeramicSteel surface by:

- Cradle to Cradle Certified — releases no harmful chemicals into the environment, safeguards clean water, materials are safe for humans and the environment
- Indoor Air Quality Certified to SCS.EC10.3-2014 v4.0
- ISO 14001 Environmental Management Certification





$$a, b, c \in \mathbb{R}$$

$$a + b + c = 0 \quad - (1)$$

$$a^2 + b^2 + c^2 = \sqrt{74} \quad - (2)$$

$$\text{Find } a^4 + b^4 + c^4$$

$$(a+b+c)^2 = 0$$

$$(1) \quad a^2 + b^2 + c^2 + 2(ab + bc + ca) = 0 \quad 2abc(a+b+c) \uparrow = 0$$

$$2(ab + bc + ca) = -\sqrt{74}$$

$$4 \left[a^2b^2 + b^2c^2 + c^2a^2 + \frac{2abc(a+b+c)}{2} \right] = 74$$

$$2(a^2b^2 + b^2c^2 + c^2a^2) = 37$$

$$(2) \quad \text{sq 2; } a^4 + b^4 + c^4 + 2(a^2b^2 + b^2c^2 + c^2a^2) = 74$$

$$a^4 + b^4 + c^4 = 37$$

Making proper use of vertical space with whiteboard surfaces and chalkboards can facilitate group work, reinforce linguistic development, increase engagement, foster innovation and make thinking visible. Incorporating writing surfaces into project rooms, training rooms or classrooms can allow individuals to brainstorm, communicate their thoughts and share ideas with others.

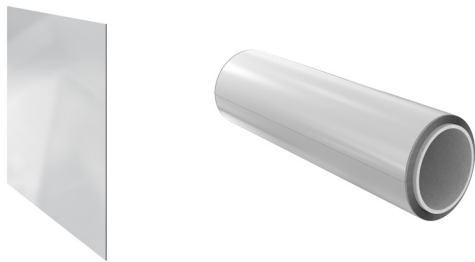
Features + Benefits

- Smooth, nonporous writing surface
- Optimum erasability — no staining
- Scratch, fire and chemical resistant
- Bacteria resistant — inhibits growth or reproduction of bacteria
- Optional Hygienic additive that keeps the surface clean
- Greater color contrast
- Minimal surface/light distortion
- Enhanced visibility and optimum eye comfort
- Safe and clean: Cradle to Cradle Certified™ Bronze
- Standard and premium color finishes available
- Colorfast — will never fade
- 99% recyclable
- No VOCs



Product Offering

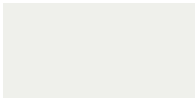
Polyvision’s e³ CeramicSteel is offered in a variety of sizes, finishes and colors in either coils or cut-to-size sheets.



Standard Colors

Premium Writing Surfaces

MARKERBOARD



White
6100



Light Gray
6101



Beige
6102

CHALKBOARD



Green Chalk
6500

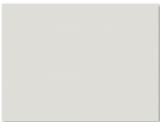


Black Chalk
6501



Slate Chalk
6502

Markerboard Finishes



Matte
13 GU(60°):
5650 e³ P only



Satin
40 GU: e³ S



High
55 GU: e³ H

| | | | |
|-------------|---------------------------------------|-------------------------|------------------------------|
| Erasability | Wet erase only, projection surface | Good dry erasability | Excellent dry erasability |
| Projection | Best | Good | Short-throw recommended |

Sizing

| Width (mm) | Width (in) | Thickness (mm) | Thickness (in) | Total Thickness o/t e ³ CeramicSteel (mm) | Total Thickness o/t e ³ CeramicSteel (in) | EMEA | APAC | AMERICAS |
|--------------|-------------------|----------------|-----------------|--|--|------|------|----------|
| 874 +2/-0 | 34.4 +0.08/-0 | 0.32 ± 0.03 | 0.0126 ± 0.001 | 0.4 - 0.51 | 0.0157 - 0.0200 | x | x | |
| 888 +2/-0 | 35 +0.08/-0 | 0.32 ± 0.03 | 0.0126 ± 0.001 | 0.4 - 0.51 | 0.0157 - 0.0201 | | x | |
| 974 +2/-0 | 38.3 +0.08/-0 | 0.32 ± 0.03 | 0.0126 ± 0.001 | 0.4 - 0.51 | 0.0157 - 0.0202 | x | x | |
| 999 +2/-0 | 39.3 +0.08/-0 | 0.32 ± 0.03 | 0.0126 ± 0.001 | 0.4 - 0.51 | 0.0157 - 0.0203 | x | x | |
| 1174 +2/-0 | 46.2 +0.08/-0 | 0.35 ± 0.03 | 0.0138 ± 0.001 | 0.43 - 0.54 | 0.0169 - 0.0212 | x | x | |
| 1188 +2/-0 | 46.8 +0.08/-0 | 0.35 ± 0.03 | 0.0138 ± 0.002 | 0.43 - 0.54 | 0.0169 - 0.0213 | | x | |
| 1199 +2/-0 | 47.2 +0.08/-0 | 0.35 ± 0.03 | 0.0138 ± 0.003 | 0.43 - 0.54 | 0.0169 - 0.0214 | x | x | |
| 1216 +2/-0 | 47.9 +0.08/-0 | 0.35 ± 0.03 | 0.0138 ± 0.004 | 0.43 - 0.54 | 0.0169 - 0.0215 | x | x | |
| 838.2 +3/-0 | 33 (-0 +1/8) | 0.33 ± 0.03 | 0.013 (± 0.001) | 0.43 - 0.55 | 0.017 - 0.0215 | | | x |
| 877.9 +3/-0 | 34-9/16 (-0 +1/8) | 0.33 ± 0.03 | 0.013 (± 0.001) | 0.43 - 0.55 | 0.017 - 0.0215 | | | x |
| 911.2 +3/-0 | 35-7/8 (-0 +1/8) | 0.33 ± 0.03 | 0.013 (± 0.001) | 0.43 - 0.55 | 0.017 - 0.0215 | | | x |
| 1179.5 +3/-0 | 46-7/16 (-0 +1/8) | 0.33 ± 0.03 | 0.013 (± 0.001) | 0.43 - 0.55 | 0.017 - 0.0215 | | | x |
| 1216 +3/-0 | 47-7/8 (-0 +1/8) | 0.33 ± 0.03 | 0.013 (± 0.001) | 0.43 - 0.55 | 0.017 - 0.0215 | | | x |
| 1216 +3/-0 | 47-7/8 (-0 +1/8) | 0.48 ± 0.03 | 0.019 (± 0.001) | 0.58 - 0.68 | 0.023 - 0.027 | | | x |
| 1520.8 +3/-0 | 59-7/8 (-0 +1/8) | 0.48 ± 0.03 | 0.019 (± 0.001) | 0.58 - 0.68 | 0.0253 - 0.0293 | x | x | x |

Availability

| Color | Description | ISO 7724 | | | | Regional Availability | | |
|------------------------|-------------|----------|-------|------|------------------------------|-----------------------|------|----------|
| | | L* | a* | b* | ΔE ⁹⁴ vs standard | EMEA | APAC | AMERICAS |
| 6500 C | Green Chalk | 37.5 | -16.4 | 5.1 | < 1.5 | x | x | x |
| 6501 C | Black Chalk | 20.9 | -0.7 | -0.9 | < 1.5 | x | x | x |
| 6502 C | Slate Chalk | 35.7 | 0.6 | 0.2 | < 1.5 | x | x | x |
| 6100 S/H | White | 89.9 | -0.4 | 2.7 | < 1.5 | x | x | x |
| 6101 S/H | Light Gray | 78.8 | 0.1 | 2.8 | < 1.5 | x | x | x |
| 6102 S/H | Beige | 87.3 | 1.7 | 14.2 | < 1.5 | x | x | x |
| indicative values only | | | | | | | | |



Printed Graphics

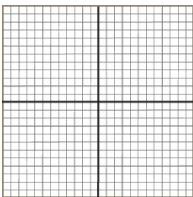
Screen Printing

Through the printing process, the unique features of CeramicSteel are also incorporated into the graphics. Fired in the range of 700–900 °C (1292–1652 °F), the printed top porcelain enamel coating provides an everlasting surface that is scratch and fire resistant, weather and UV resistant so that colors will never fade, and includes a forever warranty on its properties, such as the surface itself. With our latest technology, we can print CeramicSteel coils and sheets in a continuous process.

Digital Printing

Using ceramic inks, digitally printing images, graphics, and artwork onto CeramicSteel is more efficient and cost effective than many alternatives. For large projects and unique designs, digital printing is an excellent solution.

Premium Writing Surfaces



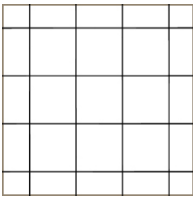
Graph Coordinates



2" Horizontal Lines



Penmanship Lines



2" x 2" Grid



Music Lines 5 Staves



The major advantages for our customers include:

- Availability of a wide range of educational patterns as coils
- A wider flexibility when cutting to size
- Less scrap and loss of material
- Less stock and storage space
- Cost reduction transferred in more competitive pricing
- Improved end-user performance

Our efforts to improve the characteristics of screen-printed CeramicSteel also provide advantages for the end user. It remains perfectly visible (we offer both a high-contrast as well as a low-contrast, "tone-in-tone" option) but can't be felt. It's an ideal fusion of two ceramic layers. This means the printed pattern will not interfere when writing or erasing on a chalkboard or whiteboard surface.

Defect deduction for coil printing

With modular printing (e.g., Grid), 1 DEFECT = 1 meter deducted* (length module 3000 mm) max. 10% deduction, unless agreed otherwise.

With continuous print (e.g., Crosses), 1 DEFECT = 0,25 meter deducted* max. 1 defect per 10 running meters or max. 10% deduction.

Due to the specific characteristics of the pattern and our production process, an interruption is required. The maximum printing run of the screen-printing installation is 3000 mm. Continuous patterns will be printed with a length of 2996 mm and a gap of 4 mm.

Custom graphics are available on request.

High-Gloss Writing Surfaces - H

High gloss features less reflection than the Type U, while maintaining a smooth surface. It is ideal for magnet-retaining applications and easy to maintain. This is one of our most commonly used surfaces for general purposes.



| Property | Ref. in Doc. n° 41.822 | Specification | Whiteboard e ³ H |
|---|---------------------------|--|--|
| Total thickness enamel top coatings | 1 | ISO 2178 / ASTM B499 | 85 - 120 µm / 3.35 - 4.72 mills |
| Steel thickness | 2 | | See sizing, page 13 |
| Thickness back-side enamel coating | 3 | ISO 2178 / ASTM B499 | Type A: 25 - 50 µm / 0.98 - 1.97 mills Type B: 35 - 50 µm / 1.38 - 1.97 mills |
| Total thickness | 4 | | See sizing, page 13 |
| Available standard widths | 5 | | See sizing, page 13 |
| Available standard colors | 6 | | See standard colors, page 12 |
| Weight (typical) | 7 | - | 2.9 - 3.2 kg/m ² |
| Color deviation from standard | 8 | ISO 7724 / ASTM D2244-02 | ΔE ⁹⁴ = 1.5 max. |
| Gloss | 9 | ISO 2813 / ASTM D523 60° ISO 2813 / ASTM D523 20° | (Indicative: 92 GU) 55 (+10/-5) GU |
| Mohs surface hardness | 11 | EN 15771 | Min. 5 |
| Scratch resistance | 12 | ISO 15695 | Min. 7 N |
| Pencil hardness | 13 | ASTM D-3363 | > 9H |
| Wear resistance | 14 | ASTM C 501 (Abrasive S 33/1 kg/1000 revs.) | Max. 0.1 g |
| Impact resistance | 15 | ISO 4532 (20N - 24h) | < 2 mm |
| Cold acid resistance | 16 | EN 14483-1-9 / ISO 28706-1-9 | Min. A |
| Solvent resistance | 17 | PVNV 41.822 | No change |
| Fire resistance | 18 | EN 13501-1 +A1 | Incombustible - Class A1 |
| Color stability | 19 | ASTM C 538 | ΔE ⁹⁴ ≤ 5 |
| Dry-erasability of drymarkers | 24 | PVNV 41.803 | Excellent (ΔE ⁹⁴ ≤ 1.5) |
| Erasability of water-based markers with water | 25 | PVNV 41.822 | Excellent (ΔE ⁹⁴ ≤ 1.5) |
| Erasability of permanent markers with alcohol | 26 | PVNV 41.822 | Excellent (ΔE ⁹⁴ ≤ 1.5) |
| Durability | 27 | PVNV 41.809 | RG<30% |
| Erasability of an aged surface | 28 | PVNV 41.809 | Excellent (ΔE ⁹⁴ ≤ 1.5) |
| EN ISO 28762 | 29 | EN ISO 28762 | Fulfilled |
| European Enamel Authority | 30 | EEA Quality Requirements | EEA 7.17: Fulfilled |
| MBDC Cradle to Cradle Certified | 31 | Cradle to Cradle Bronze | Certified |
| PEI 1002 compliant | 32 | PEI 1002 | Fulfilled |
| ISO 9001, ISO 14001 compliant | 33 | ISO 9001 | Certified |

Satin

Writing Surfaces - S

Satin gloss finish has less light reflection than Type U and Type H, but still offers a smooth surface that is easy to write on and erase. A great option for spaces that use projectors.



| Property | Ref. in Doc. n° 41.822 | Specification | Whiteboard e³ S |
|---|---------------------------|--|--|
| Total thickness enamel top coatings | 1 | ISO 2178 / ASTM B499 | 85 - 120 µm / 3.35 - 4.72 mills |
| Steel thickness | 2 | | See sizing, page 13 |
| Thickness back-side enamel coating | 3 | ISO 2178 / ASTM B499 | Type A: 25 - 50 µm / 0.98 - 1.97 mills Type B: 35 - 50 µm / 1.38 - 1.97 mills |
| Total thickness | 4 | | See sizing, page 13 |
| Available standard widths | 5 | | See sizing, page 13 |
| Available standard colors | 6 | | See standard colors, page 12 |
| Weight (typical) | 7 | - | 2.9 - 3.2 kg/m² |
| Color deviation from standard | 8 | ISO 7724 / ASTM D2244-02 | $\Delta E^{94} = 1.5$ max |
| Gloss | 9 | ISO 2813 / ASTM D523 60° ISO 2813 / ASTM D523 20° | (Indicative: 83 GU) 40 (+10/-5) GU |
| Mohs surface hardness | 11 | EN 15771 | Min. 5 |
| Scratch resistance | 12 | ISO 15695 | Min. 7 N |
| Pencil hardness | 13 | ASTM D-3363 | > 9H |
| Wear resistance | 14 | ASTM C 501 (Abrasive S 33/1 kg/1000 revs.) | Max. 0.1 g |
| Impact resistance | 15 | ISO 4532 (20N - 24h) | < 2 mm |
| Cold acid resistance | 16 | EN 14483-1-9 / ISO 28706-1-9 | Min. A |
| Solvent resistance | 17 | PVNV 41.822 | No change |
| Fire resistance | 18 | EN 13501-1 +A1 | Incombustible - Class A1 |
| Color stability | 19 | ASTM C 538 | $\Delta E^{94} \leq 5$ |
| Dry-erasability of drymarkers | 24 | PVNV 41.803 | Good ($\Delta E^{94} \leq 4.5$) |
| Erasability of water-based markers with water | 25 | PVNV 41.822 | Excellent ($\Delta E^{94} \leq 1.5$) |
| Erasability of permanent markers with alcohol | 26 | PVNV 41.822 | Excellent ($\Delta E^{94} \leq 1.5$) |
| Durability | 27 | PVNV 41.809 | RG<30% |
| Erasability of an aged surface | 28 | PVNV 41.809 | Good ($\Delta E^{94} \leq 4.5$) |
| EN ISO 28762 | 29 | EN ISO 28762 | Fulfilled |
| European Enamel Authority | 30 | EEA Quality Requirements | EEA 7.17: Fulfilled |
| MBDC Cradle to Cradle Certified | 31 | Cradle to Cradle Bronze | Certified |
| PEI 1002 compliant | 32 | PEI 1002 | Fulfilled |
| ISO 9001, ISO 14001 compliant | 33 | ISO 9001 | Certified |



Chalkboard

Writing Surfaces - C

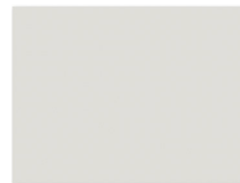
Ideal for magnet-retaining applications and widely used in education spaces, the wet erase CeramicSteel chalk surface features an ultra-matte finish that is low maintenance and easy to clean.



| Property | Ref. in Doc. n° 41.822 | Specification | Chalkboard e³ C |
|---|---------------------------|--|--|
| Total thickness enamel top coatings | 1 | ISO 2178 / ASTM B499 | 85 - 110 µm / 3.35 - 3.94 mills |
| Steel thickness | 2 | | See sizing, page 13 |
| Thickness back-side enamel coating | 3 | ISO 2178 / ASTM B499 | Type A: 25 - 50 µm / 0.98 - 1.97 mills Type B: 35 - 50 µm / 1.38 - 1.97 mills |
| Total thickness | 4 | | See sizing, page 13 |
| Available standard widths | 5 | | See sizing, page 13 |
| Available standard colors | 6 | | See standard colors, page 12 |
| Weight (typical) | 7 | - | 2.9 - 3.2 kg/m² |
| Color deviation from standard | 8 | ISO 7724 / ASTM D2244-02 | ΔE ⁹⁴ = 1.5 max |
| Gloss | 9 | ISO 2813 / ASTM D523 60° ISO 2813 / ASTM D523 20° | 5.5 (+4/-2) GU NA |
| Mohs surface hardness | 11 | EN 15771 | Min. 5 |
| Scratch resistance | 12 | ISO 15695 | NA |
| Pencil hardness | 13 | ASTM D-3363 | > 9H |
| Wear resistance | 14 | ASTM C 501 (Abrasive S 33/1 kg/1000 revs.) | Max. 0.1 g |
| Impact resistance | 15 | ISO 4532 (20N - 24h) | < 2 mm |
| Cold acid resistance | 16 | EN 14483-1-9 / ISO 28706-1-9 | NA |
| Solvent resistance | 17 | PVNV 41.822 | No change |
| Fire resistance | 18 | EN 13501-1 +A1 | Incombustible - Class A1 |
| Color stability | 19 | ASTM C 538 | ΔE ⁹⁴ ≤ 5 |
| Dry-erasability of drymarkers | 24 | PVNV 41.803 | NA |
| Erasability of water-based markers with water | 25 | PVNV 41.822 | NA |
| Erasability of permanent markers with alcohol | 26 | PVNV 41.822 | NA |
| Durability | 27 | PVNV 41.809 | NA |
| Erasability of an aged surface | 28 | PVNV 41.809 | NA |
| EN ISO 28762 | 29 | EN ISO 28762 | Fulfilled |
| European Enamel Authority | 30 | EEA Quality Requirements | EEA 7.15: Fulfilled |
| MBDC Cradle to Cradle Certified | 31 | Cradle to Cradle Bronze | Certified |
| PEI 1002 compliant | 32 | PEI 1002 | Fulfilled |
| ISO 9001, ISO 14001 compliant | 33 | ISO 9001 | Certified |

Projection Markerboard Surfaces - P

This ideal projection surface works doubly hard, also providing excellent writability. The wet erase Projection surface is designed specifically for high-use projection spaces like AV rooms.



| Property | Ref. in Doc. n° 41.822 | Specification | Projection Board e³ P |
|---|---------------------------|--|--|
| Total thickness enamel top coatings | 1 | ISO 2178 / ASTM B499 | 100 - 130 µm / 3.94 - 5.12 mills |
| Steel thickness | 2 | | See sizing, page 13 |
| Thickness back side enamel coating | 3 | ISO 2178 / ASTM B499 | Type A: 25 - 50 µm / 0.98 - 1.97 mills Type B: 35 - 50 µm / 1.38 - 1.97 mills |
| Total thickness | 4 | | See sizing, page 13 |
| Available standard widths | 5 | | See sizing, page 13 |
| Available standard colors | 6 | | See standard colors, page 12 |
| Weight (typical) | 7 | - | 2.9 - 3.2 kg/m² |
| Color deviation from standard | 8 | ISO 7724 / ASTM D2244-02 | $\Delta E^{94} = 1.5$ max |
| Gloss | 9 | ISO 2813 / ASTM D523 60° ISO 2813 / ASTM D523 20° | 13 (+3/-3) GU NA |
| Mohs surface hardness | 11 | EN 15771 | Min. 5 |
| Scratch resistance | 12 | ISO 15695 | NA |
| Pencil hardness | 13 | ASTM D-3363 | > 9H |
| Wear resistance | 14 | ASTM C 501 (Abrasive S 33/1 kg/1000 revs.) | Max. 0.1 g |
| Impact resistance | 15 | ISO 4532 (20N - 24h) | < 2 mm |
| Cold acid resistance | 16 | EN 14483-1-9 / ISO 28706-1-9 | NA |
| Solvent resistance | 17 | PVNV 41.822 | No change |
| Fire resistance | 18 | EN 13501-1 +A1 | Incombustible - Class A1 |
| Color stability | 19 | ASTM C 538 | $\Delta E^{94} \leq 5$ |
| Dry-erasability of drymarkers | 24 | PVNV 41.803 | Poor ($\Delta E^{94} \geq 4.5$) |
| Erasability of water-based markers with water | 25 | PVNV 41.822 | Good ($\Delta E^{94} \leq 4.5$) |
| Erasability of permanent markers with alcohol | 26 | PVNV 41.822 | Good ($\Delta E^{94} \leq 4.5$) |
| Durability | 27 | PVNV 41.809 | NA |
| Erasability of an aged surface | 28 | PVNV 41.809 | NA |
| EN ISO 28762 | 29 | EN ISO 28762 | NA |
| European Enamel Authority | 30 | EEA Quality Requirements | EEA 7.16: Fulfilled |
| MBDC Cradle to Cradle Certified | 31 | Cradle to Cradle Bronze | Certified |
| PEI 1002 compliant | 32 | PEI 1002 | Fulfilled |
| ISO 9001, ISO 14001 compliant | 33 | ISO 9001 | Certified |





$$\frac{6}{8} \div 2 = \frac{\quad}{4}$$

Forever Warranty

Polyvision warrants that any CeramicSteel surface manufactured by Polyvision will retain its writing and erasing qualities and maintain its gloss variance and color consistency for the life of the building or for as long as the product is in use, whichever comes first.

Should any failure to conform to this warranty become apparent, then, upon written notice from the customer, Polyvision, at its option, will correct such nonconformity by repair or replacement. Correction in the manner provided above shall constitute a fulfillment of all liabilities of Polyvision with respect to the quality of the CeramicSteel writing surface. The warranty is applicable only under normal usage and maintenance and does not cover defects caused by improper handling, vandalism or abuse, or arising from failure to follow Polyvision's instructions and recommendations for maintenance. The warranty is voided if any modifications are made to the products by the customer or other trades with or without Polyvision's written consent or prior knowledge.

The warranty does not include the cost of removal or reinstallation. This warranty is effective as of June 4, 2009, and supersedes the terms and conditions of all prior surface warranties issued to the customer by Polyvision.

This limited warranty is the sole remedy for product defects and no other express or implied warranty is provided, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. Polyvision shall not be liable for consequential or incidental damages arising from any product defect.



Cleaning + Care | Markerboards

Cleaning Before First Use

1. If present, remove the protective film.
2. CLEAN: Wipe board with a clean cloth (*) moistened with a mix of isopropyl alcohol and water (30/70) — the most effective whiteboard cleaner (**).
3. RINSE: Rinse the surface with water and a clean cloth.
4. DRY: Wipe surface dry with a clean cloth.

General Cleaning & Maintenance

1. CLEAN: Wipe board with a clean cloth (*) moistened with:
 - a. Water: in most cases this will clean the surface just fine.
 - b. Or a mix of isopropyl alcohol and water (30/70 %v/v) — the most effective whiteboard cleaner (**).
2. RINSE: Rinse the surface with water and a clean cloth.
3. DRY: Wipe surface dry with a clean cloth.

Cleaning frequency depends on the intensity with which the writing surface is being used. Daily or at the very least weekly cleaning is recommended.

Removing Markings & Residue

1. CLEAN: Moisten a clean, dry cloth with water.
 - a. Apply a small amount of an abrasive cleanser to the cloth.
 - b. Working in small sections, clean the area using a back-and-forth motion with gentle pressure.

Note: For best results, follow the manufacturer's instructions on the label.

2. RINSE: Rinse well with clean water as soap residues on the surface will result in decreased dry erase-ability.
3. DRY: wipe dry with a clean cloth.
4. To quickly and easily remove permanent marker, write over the top of the writing with a dry-erase marker. Then, simply erase. In most cases, this will remove the marker.

* For best results use microfiber cloth

** Using a non-appropriate cleaner may result in poor dry erase-ability due to the build-up of residues from the cleaner on the surface.

Cleaning + Care | Chalkboards

Cleaning Before First Use

1. If present, remove the protective film.
2. Chalk the surface using the long side of the chalk.
3. Erase the board with a latex or felt eraser.
4. Keep the erasers dry and clean.
5. Clean the surface with clean, warm water.
6. Rinse well with clean water and strip/wipe the surface with a good window stripper/squeegee.
7. Allow the surface to dry before use.

General Cleaning & Maintenance

1. Erase the board with a latex or felt eraser. Keep the erasers dry and clean them regularly.
2. Clean the surface with clean, warm water.
3. Rinse well with clean water and strip/wipe the surface with a good window stripper/squeegee. Allow the surface to dry completely before use.

Note: Boards used moderately should be cleaned two to three times a week. Boards used more intensely may require daily cleaning.

Removing Markings & Residue

1. Clean the surface with clean, warm water. (Use 5% Extran MA 02 or phosphate-containing cleaner in water and rub well with a kitchen sponge when necessary.)
2. Rinse well with clean water and strip/wipe the surface with a good window stripper/squeegee. Allow the surface to dry completely before use.

Note: To determine if your board's surface is Polyvision's e³ CeramicSteel, scratch a small, hidden area of the board with a sharp object, such as a key. Polyvision e³ surfaces resist this test, while painted surfaces are easily scratched and damaged.



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SURFACEMATTERS™

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