

carbonzerohpl

DuraMatte

TECHNICAL DATA SHEET

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DuraMatte

Composition

Duramatte is manufactured with melamine resin, special decorative papers (which provide its surface properties) and Kraft papers with phenolic resin (the core support of the laminate). All of them are subjected to a high specific pressure (100 kg/cm²) and 135°C (275°F). Once the press cycle is finished, the laminate is trimmed following the established nominal dimensions, packed and distributed to our clients. Due to its thickness Duramatte is not sanded on its back. Duramatte has been classified as a fire retardant material, certified under the Docket 90-A US Department of Transportation normatively, to be used in the covering of vehicle bodies. Duramatte offers excellent resistance to humidity and moderate resistance to chemical substances. Duramatte can be ordered with one or both faces with decorative paper, or just the phenolic body, brown or black, without any covering.

Recommended Applications

Duramatte from CarbonZero offers excellent mechanical, structural, and thermal properties. Duramatte is a high resistance product, with more dimensional stability and humidity resistance than most conventional laminates. Duramatte is designed to be used in the elaboration of construction forms, structural materials, office divisions, sanitary work surfaces, counter tops, car interior coverings, architectonic furniture, machinery parts, among others.

Basic Limitations

Duramatte is designed for interior uses only, it does not withstand high temperature, exceeding 135°C (275°F). Duramatte should not be exposed to intense and continuous sunlight. Duramatte is available in thicknesses varying from 2.0 mm to 25 mm in any design of our approved line and exclusively for normal applications, not for postformable designs. Please contact our sales representatives for further assistance.

| product identification | | | | | | |
|----------------------------|-------------|-------------|-------------|-------------|----------|-------|
| NOMINAL THICKNESS | SIZES | | | | FINISHES | |
| mm (in) | feet (ft) | | | | Gloss | Matte |
| | 4 x 8 | 4 x 10 | 5 x 8 | 5 x 12 | | |
| | metre (m) | | | | | |
| | 1.22 x 2.44 | 1.22 x 3.06 | 1.53 x 2.44 | 1.53 x 3.66 | | |
| Solicited Thickness +/- 5% | X | X | X | X | X | X |
| 20 - 60 (0.079 - 0.236) | X | X | X | X | X | X |

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Useful Information

1. Conditioning and storing Duramatte is very important, it should be stored horizontally, at a regular temperature (max. 30°C 86°F) and relative humidity (max. 60%), in a dry and drafty place.
2. In the inside covering of car interiors Duramatte must be secured by using rivets and/or bevels. The back of the laminate shall be protected by acoustic tapes to prevent the noise produced by friction. Due to its Duramatte composition, that provides air tightness and greater water resistance, Duramatte does not need additional protection such as sealers or asphalt products.
3. Duramatte should be cut with circular saws at a 8-12 m/min. and 3,000-5,500 r.p.m. speed, the tooth of the saw must be done in plane trapezoidal diamond with alternating geometry. For routed jobs, a cylindrical miller of minimum 12,000 r.p.m. must be used.
4. To perforate Duramatte use a tungsten-carbide drill bit with bicular end at 10,000 r.p.m. The selected drill bit must be 0.002 inches (0.05 mm.) bigger than the specific diameter of the hole to be made.
5. Duramatte is available in two finishes: Gloss and Matte. We recommend the use of textured laminates in horizontal surfaces as cafeteria tables, desks, kitchen counter tops, etc. To avoid damages on the laminate surface, a protection element as a wooden or ceramic piece must be used before doing any kind of cut labor over it. Also use a similar protector element on the laminates to put hot objects with temperature exceeding 135°C(275°F)
6. For stain cleaning or maintenance of Duramatte, use water, soft non-abrasive detergents and nylon brushes. Stubborn stains may require the use of hypochlorite bleach dissolved in water. Avoid the use of strong bleachers, organic detergents and abrasive brushes, these could discolor and scratch the surface. Grease stain should be cleaned with a soft cloth and organic solvent or a mixture of 50:50 alcohol-organic solvent, the laminate shall be free of stain without any deterioration of its color tone or its original design.
7. Duramatte provides a long-life surface and easy maintenance. They are not suited for laboratory surfaces, where corrosive material, alkalis and strong acids are used in its daily labor because their damage will be inevitable.

| mechanical properties | | | | | | | |
|-----------------------|--------------------|-------------------|----------|------------------------|-----------------------|------------------------|-----------------------|
| METHOD | PROPERTY | FIBER ORIENTATION | UNITS | 2 - 6 mm ⁷ | NEMA LD.3 CGS | - 25 mm | NEMA LD.3 CGS |
| ASTM D 790 | FLEXION RESISTANCE | | PSI max. | 41317 | 18000 | 30759 | 18000 |
| | | Transversal | PSI max. | 39194 | 12000 | 28945 | 12000 |
| ASTM D 790 | FLEXION UNIT | Longitudinal | PSI max. | 2.04 X 10 ⁶ | 1.6 x 10 ⁶ | 2.0 x 10 ⁶ | 1.6 x 10 ⁶ |
| | | Transversal | PSI max. | 1.72 X 10 ⁶ | 1.4 x 10 ⁶ | 1.87 x 10 ⁶ | 1.4 x 10 ⁶ |
| ASTM D 638 | TENSION RESISTANCE | Longitudinal | PSI max. | 20062 | 18000 | 25598 | 18000 |
| | | Transversal | PSI max. | 17084 | 12000 | 24216 | 12000 |

Analysis Certificated #4227-729830

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| warping specification | | | | | | | | |
|------------------------------|--------------------|--------------|---|-------------|--------|--------------------------|-----------|-------------|
| PRODUCT IDENTIFICATION | | | HPL FOR STRUCTURAL APPLICATIONS (COMPACT) - GRADE 100 | | | | | |
| TEST METHOD & STANDARD | QUALITY FEATURES | UNITS | Carbonzero | Nema LD.3 | EN 438 | Carbonzero | Nema LD.3 | EN 438 |
| | Reference standard | | Carbonzero | Nema LD.3 | EN 438 | Carbonzero | Nema LD.3 | EN 438 |
| | Nomenclature | — | 2 - 6 mm C | CGS C | GS 6 | - 25 mm | CGS | GS |
| | | | 2.0 mm <= e < 3.0 mm | +/- 0.20 mm | | 12.0 mm <= e < 16.0 m m | | +/- 0.60 mm |
| #3.1.5 Nema LD.3, # 5 EN-438 | THICKNESS | mm | 3.0 mm <= e < 5.0 mm | +/- 0.30 mm | | 16 mm <= e < 20.0 m m | | +/- 0.70 mm |
| | | | 5.0 mm <= e < 8.0 m m | +/- 0.40 mm | | 20.0 mm <= e < = 25.0 mm | | +/- 0.80 mm |
| | | | 8.0 mm <= e < 12.0 mm | +/- 0.50 mm | | | | |
| #3.1.6 Nema LD.3, # 9 EN-438 | WARPING | mm/m maximum | 2.0 <= e < 6.0 m m | | | 8.0 mm/m Max | | |
| | | | 6.0 <= e < 10.0 m m | | | 5.0 mm/m Max | | |
| | | | 10 mm <= e | | | 3.0mm/m Max | | |

| compact weight (kg) | | | | |
|---------------------|-------------------|------------------|------------------|------------------|
| Nominal | 1.220 x 2.440 m m | 1.220 x 3.060 mm | 1.530 x 2.440 mm | 1.530 x 3.660 mm |
| Thickness (mm) | (4x8 ft) | (4x10 ft) | (5x8 ft) | (5x12 ft) |
| 2.0 | 9 | 11 | 11 | 16 |
| 4.0 | 17 | 21 | 21 | 32 |
| 6.0 | 26 | 32 | 32 | 48 |
| 8.0 | 34 | 43 | 43 | 64 |
| 10.0 | 43 | 53 | 53 | 80 |
| 12.0 | 51 | 64 | 64 | 96 |
| 15.0 | 64 | 80 | 80 | 120 |
| 18.0 | 77 | 96 | 96 | 144 |
| 20.0 | 85 | 107 | 107 | 160 |
| 25.0 | 106 | 133 | 133 | 200 |

Limited Warranty

CarbonZero warrants that its products are reasonably free of defects, and when properly used, will comply with normal deviations to related manufacturing specifications. This warranty will be extended only to the original buyers for a period of one (1) year from the purchase date. It excludes damage resulting from accidents, abuse or lack of care, improper use and/or any alteration. Since CarbonZero laminates have a wide range of applications, without the possibility of control over the manufacturing of the end product, CarbonZero does not assume obligations or liabilities arising from the furnishing, sale, installation or repair, use or subsequent sale of any product, to any person or entity. The contents of this brief correspond to common knowledge of High Pressure Laminates. CarbonZero offers this information solely to provide suggestions for your application. Since it's impossible to anticipate all variations in actual end use conditions, no warranties or liabilities can be assumed by CarbonZero in connection to the use of this information. CarbonZero believed the information and recommendations provided herein to be accurate at the time of preparation or obtained from sources believe to be generally reliable. CarbonZero can modify it without prior notice.