

COMPACT™ STRUCTURAL LAMINATES BY FORMICA GROUP

TECHNICAL DATA



PRODUCT DESCRIPTION

Melamine-impregnated decorative surface papers are combined with phenolic treated kraft paper consolidated in a press at high pressure.

RECOMMENDED APPLICATION

Compact™ by Formica Group is suitable for interior horizontal or vertical surfaces where high strength, impact, water, and humidity resistance are required. Because of its inherent high strength, Compact sheets may be used as a structural material. Compact sheets can be drilled, routed, tapped, sanded, shaped and cut with standard carbide-tipped tooling. Compact sheets are available in two-sided decorative face; thicknesses ranging from 1/8" (3.18mm) to 1" (25.4mm) with black core. Fire retardant, Class I (A) grades are also available.

FABRICATION AND ASSEMBLY

LIMITATIONS

Compact sheets are suitable for interior horizontal or vertical surfaces. Compact sheets, 1/4" (6.4mm) or less, are not recommended for adherence directly to plaster, gypsum board, or concrete. Do not use in areas exposed to temperature exceeding 275°F (135°C). Compact sheets are not recommended for exterior applications.

STORAGE

Compact sheets should be stored horizontally, with a caul board or other protective sheet placed on top to protect the material from possible damage. The material should be protected from moisture, and should never be stored in contact with the floor or an outside wall. Optimum conditions for storage are approximately 75°F (24°C), and 45% to 55% relative humidity.

PRECONDITIONING

Compact sheets moves with changes in humidity, but less than standard high pressure laminate (HPL) sheet. Allow Compact sheets to acclimate for at least 48 hours to ambient conditions prior to fabrication. Optimum conditions are approximately 75°F (24°C), and at a relative humidity of 45% to 55%. Provisions should be made for the circulation of air around the material.

SUBSTRATES

If required, thinner variations of Compact sheets may be bonded to 45# density, industrial-grade particle board (ANSI A208.1-1999), medium density fiberboard (MDF), or hardwood-faced luan plywood. Softwood fir and other plywood have different dimensional stability and are not recommended as substrates. The substrates should be sanded smooth, clean, free of oil or grease, and uniform in thickness.

ADHESIVES

PVAc and rigid-set adhesives (urea, resorcinol) can be used to bond Compact sheets to substrates. Solvent-based contact adhesive can be used to bond laminate sheets to Compact sheets. Do not use water-based contacts for this application. Compact sheets greater than 1/4" (6.4mm) in thickness, can be applied as wall panels to the substrate using mechanical fasteners.

ASSEMBLY

Material, equipment, and workmanship should conform to the industry standard practices, conditions, procedures, and recommendations as specified by ANSI/NEMA LD3-2005. Compact sheets can be sawed, drilled, routed, and fabricated similarly to standard HPL. Carbide-tipped cutting tools are recommended. All inside corners of cutouts must be radiused as large as possible, 1/8" (3.18mm) minimum, to avoid stress cracking. The edges and corners should be routed, sanded, or filed smooth and free of chips or nicks.

TECHNICAL DATA

Performance compliance of Compact by Formica Group:

ANSI/NEMA STANDARDS PUBLICATION - LD3-2005

| PHYSICAL PROPERTIES | LD3 TEST | COMPACT |
|--------------------------------|-------------|-----------------|
| Appearance | 3.1 | No ABC Defects |
| Light Resistance | 3.3 | Slight Effect |
| Cleanability | 3.4 | 20 (maximum) |
| Stain Resistance | 3.4 | |
| Reagents 1 – 10 | | No Effect |
| Reagents 11 – 15 | | Moderate Effect |
| Boiling Water Resistance | 3.5 | Slight Effect |
| High Temperature Resistance | 3.6 | Slight Effect |
| Ball Impact Resistance (in.) | 3.8 | |
| – in | | 75 (minimum) |
| – mm | | 1905 (minimum) |
| Radiant Heat Resistance (sec.) | 3.10 | 250 (minimum) |
| Dimensional Change | 3.11 | |
| Machine Direction – % | | 0.20 (maximum) |
| Cross Direction – % | | 0.50 (maximum) |
| Wear Resistance – cycles | 3.13 | 400 (minimum) |

ASTM MECHANICAL PERFORMANCE PROPERTIES

| MECHANICAL PROPERTIES* | ASTM TEST | COMPACT |
|------------------------|-----------------|-----------------------------|
| Flexural Strength | D790-84a | |
| Ultimate | | 1.877 x 10 ⁴ psi |
| Modulus | | 1.690 x 10 ⁴ psi |
| Tensile Strength | D638-84 | |
| Ultimate | | 1.637 x 10 ⁴ psi |
| Modulus | | 1.650 x 10 ⁴ psi |
| Bond Strength | D952-8 | 1.460 x 10 ⁴ psi |
| Bearing Strength | D953-84a | 1.650 x 10 ⁴ psi |
| Barcol Hardness | D2583 | 70 |

*Typical test results from an independent outside laboratory

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TECHNICAL DATA CONTINUED



STANDARD COMPACT FIRE TEST DATA – ASTM E-84

| GRADE/FORMICA® BRAND PRODUCTS (FACED MATERIAL) | ADHESIVE | FLAME | SMOKE | CLASS |
|--|----------|-------|-------|-------|
| S6/Compact (1/2" Thick Phenolic) | Unbonded | 30 | 110 | B |
| S7/Compact (3/4" Thick Phenolic) | Unbonded | 30 | 110 | B |
| R3/Compact (1" Thick Phenolic) | Unbonded | 20 | 80 | A |

FIRE-RATED COMPACT FIRE TEST DATA – ASTM E-84 UL CLASSIFIED BUILDING PRODUCTS – FILE R22111

TESTED IN ACCORDANCE WITH UL723/ASTM E-84

| THICKNESS | FLAME | SMOKE | CLASS |
|----------------------------------|-------|-------|-------|
| 1/4" to 1" (6.35mm to 25.4mm) | 0 | 30 | A |

TESTED IN ACCORDANCE WITH CAN/ULC S-102 (CANADA)

| THICKNESS | FLAME | SMOKE | CLASS |
|----------------------------------|-------|-------|-------|
| 1/4" to 1" (6.35mm to 25.4mm) | 5 | 20 | A |

SIZES

Standard Compact

Sheet Sizes: 48" (121.9cm) x 96" (243.8cm)
60" (152.4cm) x 96" (243.8cm)
60" (152.4cm) x 120" (403.8cm)
60" (152.4cm) x 144" (365.8cm)

Fire-Rated Compact

Sheet Widths: 48" (121.9cm), 60" (152.4cm)
Sheet Lengths: 96" (243.8cm), 120" (403.8 cm),
144" (365.8cm)

TYPICAL THICKNESSES

| | |
|-------|------------------|
| S2 | 0.125" (3.175mm) |
| P7 | 0.250" (6.0mm) |
| S8 | 0.375" (9.5mm) |
| S6/F1 | 0.500" (12.7mm) |
| P8 | 0.625" (15.9mm) |
| S7/F5 | 0.750" (19.0mm) |
| R3/F8 | 1.000" (25.4mm) |

WEIGHT

Compact sheet weighs approximately 90 lbs/ft³ (1442 kg/m³).

COLORS, PATTERNS, AND FINISH

Compact sheets are available in a broad selection of designs and colors in matte finish as factory orders.

Compact samples are available from Formica Corporation specification representatives or directly from Formica Corporation. Call 1-800-FORMICA™ for ZIP-CHIP™ service.

HOW TO SPECIFY

Panels shall be Compact™ by Formica Group, Cincinnati, Ohio.

COLOR NUMBER

COLOR NAME

THICKNESS

FINISH

USE AND CARE

Compact sheets may be cleaned with a damp cloth and mild detergent. Use of abrasive cleaners, powders, scouring pads, steel wool, or sandpaper can damage the finish of the decorative surface. Acid- or alkaline-based cleaners and/or compounds will mar, etch, corrode, and permanently discolor the melamine decorative surface of Compact sheets. Do not use these materials on Compact surfaces, nor allow bottles and/or rags contaminated with acid- or alkaline-based cleaners/compounds to contact the surface. Accidental spills or splatters from these harsh materials should be wiped off immediately, and the area cleaned with a damp cloth.

EXAMPLES OF THESE MATERIALS ARE:

| | |
|--------------------------|-----------------------|
| drain cleaners | rust removers |
| coffeepot cleaners | metal cleaners |
| ceramic cooktop cleaners | tub and tile cleaners |
| chlorine bleach | oven cleaners |
| some countertop cleaners | bowl cleaners |
| some disinfectants | |

If in doubt about the suitability of a particular cleaner or detergent, check with its manufacturer (refer to Formica® Brand Laminate Use and Care Guide – Form no. YLT 02358W for specifics).

COMPACT™ STRUCTURAL LAMINATES BY FORMICA GROUP

TECHNICAL DATA CONTINUED



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Formica Corporation expressly warrants that, for a period of one (1) year from the date of first sale, these products will be reasonably free of defects in materials and workmanship, and that when properly handled and fabricated, will conform, within accepted tolerance, to applicable manufacturing specifications. Colors subject to dye lot variations. This limited warranty only applies to Formica® Brand Laminate which is stored, handled, fabricated and installed in the manner recommended by Formica Corporation. Due to the variety of uses and applications to which Formica Brand Laminate may be put, **FORMICA CORPORATION CAN MAKE NO WARRANTY THAT THIS PRODUCT IS SUITABLE FOR ANY PARTICULAR PURPOSE AND CAN MAKE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE SET FORTH ABOVE.**

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MANUFACTURER

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TECHNICAL SERVICES

Technical assistance may be obtained through your local Formica® Brand Products Distributor or from Formica Corporation trained representatives in sales offices throughout the country. To assist these representatives, Formica Corporation maintains a sales technical services staff in Cincinnati, Ohio. For technical assistance, contact your distributor or sales representative; write the company directly at Formica Corporation Technical Services Department, 10155 Reading Road, Cincinnati, OH, 45241; call (513) 786-3578 or 1-800-FORMICA™ (option 2); or fax (513) 786-3195. In Canada, call 1-800-363-9280. In Mexico, call (525) 530-3135.

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GreenGuard Environmental Institute
Formica® high-pressure laminate (HPL) is GreenGuard Indoor Air Quality Certified under the GreenGuard Standard for Low-Emitting Products

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