



# SPECIFICATION INFORMATION HORIZONTAL FORMING GRADE HGP (HF-4) PLASTIC LAMINATE

## 1. PRODUCT IDENTIFICATION

NEVAMAR® Laminated Plastic Horizontal Forming Grade HF-4 (HGP).

## 2. MANUFACTURER

NEVAMAR DECORATIVE SURFACES

One Nevamar Place

Hampton, South Carolina 29924

Phone: (803) 943-7200 or (800) 638-4380

www.nevamar.com

## 3. PRODUCT DESCRIPTION

**Basic Uses:** NEVAMAR brand laminate HF-4 (HGP) Horizontal Forming Grade is manufactured for application to interior horizontal surfaces where single axis radii are desired and where decorative surfaces require resistance to wear, impact and stains. It offers an attractive edge free appearance. Typical applications are for kitchens, countertops, vanities, cabinet doors, case work, furniture, bathtub and shower enclosures.

**Limitations:** NEVAMAR HF-4 (HGP) Horizontal Forming Grade is not recommended for exterior use or direct application over gypsum wallboard, concrete walls or plastered walls. Fabrication should not be done below the temperature of 65°F (18°C). Do not use in areas exposed to temperatures exceeding 275°F (135°C). Postforming grade laminates cannot be formed to a compound corner.

Typical minimum radii are:

HF-4 Grade\* 1/4" (6.4 mm) inside radius-surface in compression.

3/8" (9.5 mm) outside radius-surface in tension

\*Shop applied heated to 325° F (163°C) – 350° F (177°C). Note – when edge banding, it is recommended that the laminate extend at least 3" (76.2 mm) beyond the radius edge.

**Composition and Materials:** NEVAMAR laminate is manufactured by pressing melamine resin impregnated decorative paper over layers of phenolic resin impregnated kraft paper at pressures approximating 1200 lbs. per square inch at temperatures not exceeding 300°F (148°C). The back is sanded to maintain uniform thickness and to facilitate bonding.

**Nevamar Armored Protection™ Surface:** Most textured finish items are produced with Nevamar's exclusive Armored Protection™ Surface and have all the properties of conventional laminate. But it also has superior abrasion and scuff resistance due to a very thin deposit of microscopic particles of aluminum oxide on the conventional melamine layer. Armored Protection™ Surface laminate has significantly better wear value than the NEMA standard for laminates. It also offers superior resistance to scuffing and abrasion and resists gloss change during use. Therefore, Armored Protection™ Surface laminates tend to retain a "brand new" appearance during most of their useful life. All other properties meet the normal NEMA test requirements. Consult your local NEVAMAR representative or distributor for a brochure which fully explains the benefits of this remarkable surface.

**Sheet Sizes:** (In inches and metric)

Widths – 30" (762 mm), 36" (914 mm), 48" (1219 mm), 60" (1524 mm)

Lengths – 96" (2438 mm), 120" (3048 mm), 144" (3658 mm)

These are nominal dimensions obtainable from oversized sheets.

**Thickness:** HF-4 (HGP) Grade = 0.039" (± .005); (1.0 mm ± .12)

**Finishes:** Typically, Nevamar high pressure laminates are stocked in textured (T) finish. Some stock line items come standard in another finish as indicated in the product guide. Other finish options are available upon request under made-to-order guidelines. Available finishes are shown in Table I. Contact your NEVAMAR representative or distributor on all other finish options.

**Applicable Standards:** (Meets performance standards of the following) ANSI (American National Standard Institute)/NEMA (National Electrical Manufacturers Association) Publication LD 3 current edition. Federal Specification LP508H, Mil Spec. P. 17171E (ships), NSF-35.



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### 4. TECHNICAL DATA

NEVAMAR brand laminate HF-4 (HGP) Horizontal Forming Grade is manufactured to meet or exceed the requirements of ANSI/NEMA publication LD 3 current edition. (American National Standard Performance Standards for Fabricated High Pressure Decorative Laminate Countertops ANSI A 161 2-1998 (Sponsored by National Association of Plastic Fabricators)).

### 5. INSTALLATION

Methods: NEVAMAR forming laminates should be fabricated using approved methods by bonding it to a core material such as laminate grade plywood, particleboard, MDF, or metal using adhesives and techniques as recommended by reliable adhesive manufacturers. Care should be taken to assure that a moisture imbalance does not exist between NEVAMAR laminate and the substrate prior to fabrication. Inside corners of cut-outs should have a minimum radius of 1/8" (3.2 mm) with edges filed smooth to prevent stress cracking.

### 6. AVAILABILITY AND COST

Availability: NEVAMAR laminate sheets are available throughout the country from stocking distributors who are supported by NEVAMAR Customer Service Centers located in major trading centers.

Cost: Varies according to locale, quantity, grade, pattern and finish. NEVAMAR sales representatives or distributors will aid in quoting local prices.

### 7. MAINTENANCE

Surfaces of NEVAMAR laminate may be cleaned with a damp cloth and ordinary soap or household ammoniated liquid detergent. Abrasive cleaners or cleaners containing five percent or more of chlorine bleach solution should not be used. Stubborn stains may require use of organic solvents such as alcohol, acetone, ketone (MEK), lacquer thinner or paint solvent. (Note: Although these solvents will not harm NEVAMAR, they will attack the contact adhesive at the glue line around the edges and are flammable.) Complete care instructions are available upon request.

### 8. LIMITATION OF WARRANTY AND LIABILITY

(a) We warrant solely to the original Buyer that the Products will be free from defects in materials and workmanship, when given normal, proper and intended usage, for a period of one year from the date of sale to the Buyer.

(b) At our expense, we agree to repair or replace at our option all defective Products not performing substantially in accordance with applicable Product specifications, provided that Buyer has given us written notice of such warranty claim within the one year warranty period. If we are unable, after reasonable efforts, to repair or replace such defective Product, Buyer's sole remedy shall be the refund of an amount not to exceed the actual payments received by us for such Product. All replaced items shall become our property.

(c) Buyer is responsible for inspection of the product upon receipt and prior to any cutting, gluing or attaching of the product to any other material ("Fabrication"). Any claim by Buyer for breach of warranty shall be deemed waived to the extent it could have been determined by such inspection and any claim by Buyer for breach of warranty shall also be deemed waived if, after the Buyer determines the existence of a possible claim, fabrication is not delayed until we have been notified and have had an opportunity to resolve it in accordance with this warranty.

(d) We shall have no obligation to make repairs, replacements or corrections which result, in whole or in part, from (i) normal wear and tear, (ii) fault or negligence of Buyer, (iii) improper or unauthorized use of the Products, (iv) use of the Products in a manner for which they were not designed, (v) modifications of the Products by anyone other than us, (vi) any act of nature, act of God, fire, casualty, flood or war, (vii)



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any other causes external to the Products, or (viii) use of the Products in combination with equipment or materials not supplied by us.

(e) If notified within 10 days in writing of any action (and all prior related claims) brought against Buyer based on a claim that a Product infringes any valid United States patent, copyright or trade secret, we shall defend such action at our expenses and pay all costs and damages finally awarded in such action or settlement which are attributable to such claim. We shall have sole control of the defense of any such action and all negotiations for its settlement or compromise. Buyer shall cooperate fully with us in the defense, settlement or compromise of any such action. In the event that a final injunction is obtained against Buyer's use of a Product by reason of infringement of a valid United States patent, copyright or trade secret, or if in our opinion any Product is likely to become the subject of a successful claim of such infringement, we may, at our option and expense, (i) procure for Buyer the rights to continue using the Product, (ii) replace or modify the Product so that it becomes non-infringing (so long as its functionality is essentially unchanged), or (iii) accept the return of the Product and refund the Buyer the purchase price therefore. We may withhold further shipments of any such Products.

(f) We shall not have any liability to Buyer to the extent that any infringement or claim thereof is based upon (i) the use of a Product in combination with equipment or materials not supplied by us where the Product would not itself be infringing, (ii) compliance with Buyer's designs, specifications or instructions, (iii) use of the Product in an application or environment for which it was not designed, (iv) modifications of the Product by anyone other than us, or (v) any claims of infringement of any patent, copyright or trade secret in which Buyer or any affiliate or customer of Buyer has an interest or license.

(g) Buyer shall not bring any suit or action against us for any reason whatsoever more than one year after the related cause of action has accrued.

**EXCEPT AS STATED ABOVE, WE DISCLAIM ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, WITH RESPECT TO THE PRODUCT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**THE FOREGOING INDEMNIFICATION PROVISIONS STATE OUR ENTIRE LIABILITY WITH RESPECT TO INFRINGEMENT OR ALLEGED INFRINGEMENT OF PATENTS, COPYRIGHTS, TRADEMARKS, TRADE SECRETS AND OTHER INTELLECTUAL PROPERTY OR PROPRIETARY RIGHTS BY THE PRODUCTS.**

**OUR MAXIMUM LIABILITY ARISING OUT OF THE SALE OF THE PRODUCTS OR THEIR USE, WHETHER BASED UPON WARRANTY, CONTRACT, TORT OR OTHERWISE, SHALL NOT EXCEED THE ACTUAL PAYMENTS RECEIVED BY US IN CONNECTION THEREWITH. IN NO EVENT SHALL WE BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, OR LOSS OF USE DAMAGES, ARISING HEREUNDER OR FROM THE SALE OF THE PRODUCTS.**

Consumers who purchase our Products for personal or household use may have other rights, which will vary from state to state or, in Canada, from province to province. Federal law and some states law do not permit the disclaimer or modification of implied warranties for consumers, but may permit limitation of the duration of the implied warranties for consumers. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. Therefore, the above warranty limitations may not apply to you.



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## 9. TECHNICAL SERVICES

Nevamar maintains trained sales personnel servicing all sections of the country. Consult local telephone yellow page directory under "Plastic High Pressure Laminates" or contact Nevamar Decorative Surfaces, One Nevamar Place, Hampton, South Carolina 29924. Phone: (803) 943-7200 or (800) 638-4380  
Website: [www.nevamar.com](http://www.nevamar.com)

TABLE-I		
CATEGORY	AVAILABLE FINISH	FINISH OPTIONS
Patterns	Textured/Gloss/Hi-Luster	For details on all other finish options, contact Nevamar
Woodgrains	Textured/Gloss/Polished Velvet/Velvet	
Matrix	Textured/Crystal	
Solid Colors	Textured/Gloss/Crystal	

FINISH	GLOSS* READING	DESCRIPTION OF FINISH
Crystal	6-16	Dimensional high light reflectivity
Gloss (Solid Colors)	85-100	High gloss
Hi-Luster	30-40	Finely textured, highly reflective gloss
Polished velvet	25-35	A semi-gloss minutely grained finish
Textured	5-20	Low sheen matte
Velvet	10-20	A smooth finely grained finish

\*Gardner 60° Gloss Meter

TABLE-2 TEST VALUES		
TEST	NEMA REQUIREMENTS	TYPICAL NEVAMAR VALUES
Wear Resistance: Wear Value (cycles)	400 min.	1000 cycles typical on Armored Protection™ textured finish
Impact Resistance: (Inch drop)	30 inches	48 inches
Dart Impact Resistance	300 MM	550 MM
Dimensional Change/Room Temp Dimensional Stability % MD, Max. % CD, Max.	1.1% 1.4%	0.35% 0.75%
Room Temp. Dimensional Stability % MD, Max. %CD, Max	1.0% 1.3%	0.25% 0.45%
Resistance to Boiling Water	Slight Effect	No Effect
Resistance to High Temperature	Slight Effect	No Effect
Radiant Heat Resistance	100 sec. min.	275 seconds
Stain Resistance	Unaffected by reagents I-10; moderate II-15	Unaffected by reagents I-15
Light Resistance	Slight Effect	No Effect
Cleanability	20 max.	7-10
Formability	5/8" radius	3/8"
Blistering	55 seconds	60 seconds