



*NSF International Standard /  
American National Standard*

## **NSF/ANSI 35 - 2017**

**High Pressure Decorative  
Laminates for Surfacing  
Food Service Equipment**



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NSF International Standard/  
American National Standard  
for Food Equipment —

Not for **High pressure decorative  
laminates for surfacing  
food service equipment**

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The illustrations, if provided, are intended to assist in understanding their adjacent standard requirements. However, the illustrations may not include all requirements for a specific product or unit, nor do they show the only method of fabricating such arrangements. Such partial drawings shall not be used to justify improper or incomplete design and construction.

Unless otherwise referenced, the Annexes are not considered an integral part of NSF Standards. The Annexes are provided as general guidelines to the manufacturer, regulatory agency, user, or certifying organization.

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## Foreword<sup>2</sup>

The purpose of this Standard is to establish minimum sanitation requirements for the materials and fabrication of high pressure decorative laminates (HPDL) used in food establishments. The requirements of NSF/ANSI 35 are applicable to HPDL for use as work and nonwork surfaces of food service equipment on which direct contact during normal preparation or holding operations is not intended, expected, or reasonable. Applications of HPDL covered by this Standard include wait stations, service counters, and other counters used in conjunction with cutting boards or other means of preventing direct food contact with the laminate.

## Issue 8

Language was revised in sections 4.2, 4.3, 4.4, and 4.5 to improve consistency with NEMA LD3-2005 and other NSF Standards.

This Standard was developed by the NSF Joint Committee on Food Equipment using the consensus process described by the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments should be sent to Chair, Joint Committee on Food Equipment at [standards@nsf.org](mailto:standards@nsf.org) or, c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF International Standard  
for Food Equipment —

# High pressure decorative laminates for surfacing food service equipment

## 1 General

### 1.1 Purpose

This Standard establishes minimum sanitation requirements for the materials and fabrication of high pressure decorative laminates (HPDL). This Standard does not contain safety requirements.

### 1.2 Scope

This Standard applies to high pressure decorative laminates for use as work and nonwork surfaces of food service equipment on which direct food contact during normal preparation or holding operations is not intended, expected, or reasonable. Applications of high pressure decorative laminates covered by this Standard include wait stations, service counters, and other counters when used in conjunction with cutting boards or other means of preventing direct food contact with the laminate.

High pressure decorative laminates used on equipment for which other NSF or NSF/ANSI Standards or Criteria exist shall also comply with the applicable requirements therein. This Standard is not intended to restrict new product design, provided that such design meets the minimum specifications described herein.

### 1.3 Minimum requirements

Variations other than those specifically mentioned in this Standard may be used provided that materials meet the minimum requirements described herein.

### 1.4 Measurement

Decimal and SI conversions provided parenthetically shall be considered equivalent. Metric conversions and significant figure rounding have been made according to IEEE/ASTM SI 10.

## 2 Normative references

The following documents contain provisions that, through reference, constitute provisions of this NSF/ANSI Standard. At the time this Standard was balloted, the editions listed below were valid. All documents are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below. The most recent published edition of the document shall be used for undated references.

ANSI/NEMA LD 3 –2005. *High-Pressure Decorative Laminates*<sup>3</sup>

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<sup>3</sup> National Electrical Manufacturers Association, 1300 N. 17<sup>th</sup> Street, Rosslyn, VA 22209 USA <www.nema.org>.

IEEE/ASTM SI 10 – 2010. *American National Standard for Metric Practice* <sup>4</sup>

NSF/ANSI 51. *Food equipment materials*

NSF/ANSI 170. *Glossary of food equipment terminology*

### 3 Definitions

Terms used in this Standard that have special technical meaning are defined in NSF/ANSI 170.

### 4 Materials

This section contains requirements that are intended to ensure that high pressure decorative laminates resist wear; resist penetration by vermin; and resist the effects of foods, cleaning compounds, sanitizers, and other substances that may contact the materials in the intended use environment.

#### 4.1 Conformance with NSF/ANSI 51

High pressure decorative laminates shall conform to the requirements in NSF/ANSI 51 applicable to the zone in which the material is used.

#### 4.2 Stain resistance

Stain resistance testing shall be performed in accordance with section 3.4, CLEANABILITY / STAIN RESISTANCE of NEMA LD 3-2005<sup>3</sup>. Test specimen stain resistance score shall be no greater than:

- reagents 1 through 10: 1) No effect – All stain reagents removed with no impairment to surface appearance. Any change in gloss due to the cleaning procedure is permitted.
- reagents 11 through 15: 2) Moderate effect – A difficult to perceive stain visible from all angles and directions. Any change in gloss due to the cleaning procedure is permitted.

#### 4.3 High temperature resistance

High pressure decorative laminates for use as work surfaces shall undergo high temperature resistance testing in accordance with section 3.6, HIGH TEMPERATURE RESISTANCE of NEMA LD 3-2005<sup>3</sup>. Test specimen heat resistance score shall be no greater than:

- b. Slight effect – A change in color or surface finish only visible at certain angles or directions.

#### 4.4 Wear resistance

Wear resistance testing shall be performed in accordance with section 3.13, WEAR RESISTANCE of NEMA LD 3-2005<sup>3</sup>. Test specimen wear resistance score shall be no greater than 400 cycles.

#### 4.5 Ball impact resistance

Ball impact resistance testing shall be performed in accordance with section 3.8, BALL IMPACT RESISTANCE of NEMA LD 3-2005<sup>3</sup>. Test specimens shall not fracture when the ball drop height is:

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<sup>4</sup> ASTM International, 100 Barr Harbor Dr., West Conshohocken, PA 19428 <[www.astm.org](http://www.astm.org)>.

- non-work surface: 15 in (381 mm)
- work surface: 35 in (889 mm)

**4.6** High pressure decorative laminates shall have permanent markings indicating the manufacturer's name, the trade designation, the production location designator (if the product is manufactured at more than one location), and an indicator specifying whether the laminate is intended for use on work or nonwork surfaces.

## **5 Limitations to use**

**5.1** High pressure decorative laminates shall not be used on surfaces subject to:

- cutting, chopping, and similar operations;
- routine contact with heated objects in excess of 275 °F (135 °C);
- sustained heat of 150 °F (66 °C) or more (e.g., hot food inserts, broilers, griddles); and
- excessive moisture. This shall not preclude use on shelves; water, ice, and wait stations; and hand sinks.

**5.2** High pressure decorative laminates shall not be used on surfaces subject to intentional, expected, or reasonable direct food contact during normal operations.

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**Annex A<sup>5</sup>**  
(informative)

**Food Equipment Joint Committee<sup>6</sup>**

<b>Name</b>	<b>Company / organization</b>	<b>Interest category</b>
Bhatt, Swati	Los Angeles County	Regulatory
Bortolotti, Stefano	Carpigiani	Industry
Brady, Jim <sup>1</sup>	Wawa, Inc.	User
Brandt, Rex <sup>1</sup>	Taylor Company	Industry
Brania, Jonathan <sup>1</sup>	Underwriters Laboratories, Inc.	User
Brasseur, Eric	Little Caesars Enterprises	User
Burton-Zick, Sara <sup>1</sup>	DuPage County Health Department	Regulatory
Carotenuto, Anthony	Navy & Marine Corps Public Health Center	User
Coffman, Roger	Consultant – Public Health/Regulatory	Regulatory
Dyer, Randy	Nestle	User
Gagliardi, Tony <sup>1</sup>	Consultant – Public Health/Regulatory	Regulatory
Hall, Jon	Glastender, Inc.	Industry
Hipp, Joel <sup>1</sup>	Hobart Corporation	Industry
Hurst, Bryan, REHS, CP-FS	Lincoln-Lancaster County Health Department	Regulatory
Johnson, Tom	Qlean Tech Enterprises, LLC	User
Jumalon, Thomas	Wake County Environmental Services	Regulatory
Klouse, Paul, REHS, CP-FS	Southern Nevada Health District	Regulatory
Kohler, Mike <sup>1</sup>	NSF International	User
Leonard, James, MPH, LEHP	Princess Cruises	User
Liggans, Girvin	Food and Drug Administration	Regulatory
Maxon, Gary	The Delfield Company	Industry
McNeil, Thomas	U.S. Army	User
Negandhi, Dipak <sup>1</sup> , P.E.	Welbilt	User
Northcutt, Kirk	Auto-Chlor System	Industry
Perez, Michael <sup>1</sup>	Baring Industries	User
Peterson Jr., James	C.i.i. Food Service Design	User
Rodriguez, Luis, M.S.	CDC Vessel Sanitation Program	Regulatory
Samarya-Timm, Michele	Somerset County Department of Health	Regulatory
Scanlon, John <sup>1</sup>	Hatco Corporation	Industry
Schaefer, Stephen	Hoshizaki America, Inc.	Industry
Sickles, Willard <sup>1</sup> , P.E.	InterMetro Industries Corporation	Industry
Tackitt, Steve <sup>1</sup>	Barry-Eaton District Health Department	Regulatory
Joint Committee Secretariat: Al Rose		
Membership Balance: Industry: 10 Regulatory: 11 User: 10		
<sup>1</sup> Committee or task group chair		

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<sup>6</sup> Food Equipment Joint Committee members on the date of publication - subject to change 7/17/2017

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## Standards<sup>7</sup>

The following standards established and adopted by NSF as minimum voluntary consensus standards are used internationally:

- 2 Food equipment
- 3 Commercial warewashing equipment
- 4 Commercial cooking, rethermalization, and powered hot food holding and transport equipment
- 5 Water heaters, hot water supply boilers, and heat recovery equipment
- 6 Dispensing freezers
- 7 Commercial refrigerators and freezers
- 8 Commercial powered food preparation equipment
- 12 Automatic ice making equipment
- 13 Refuse processors and processing systems
- 14 Plastics piping system components and related materials
- 18 Manual food and beverage dispensing equipment
- 20 Commercial bulk milk dispensing equipment
- 21 Thermoplastic refuse containers
- 24 Plumbing system components for recreational vehicles
- 25 Vending machines for food and beverages
- 29 Detergent and chemical feeders for commercial spray-type dishwashing machines
- 35 High pressure decorative laminates (HPDL) for surfacing food service equipment
- 36 Dinnerware
- 37 Air curtains for entranceways in food and food service establishments
- 40 Residential wastewater treatment systems
- 41 Non-liquid saturated treatment systems
- 42 Drinking water treatment units – Aesthetic effects
- 44 Residential cation exchange water softeners
- 46 Evaluation of components and devices used in wastewater treatment systems
- 49 Biosafety cabinetry: Design, construction, performance, and field certification
- 50 Equipment for swimming pools, spas, hot tubs, and other recreational water facilities
- 51 Food equipment materials
- 52 Supplemental flooring
- 53 Drinking water treatment units – Health effects
- 55 Ultraviolet microbiological water treatment systems
- 58 Reverse osmosis drinking water treatment systems
- 59 Mobile food carts
- 60 Drinking water treatment chemicals – Health effects
- 61 Drinking water system components – Health effects
- 62 Drinking water distillation systems
- 140 Sustainable carpet assessment
- 169 Special purpose food equipment and devices
- 170 Glossary of food equipment terminology
- 173 Dietary supplements
- 177 Shower filtration systems – Aesthetic effects
- 184 Residential dishwashers
- 223 Conformity assessment requirements for certification bodies that certify products pursuant to NSF/ANSI 60: Drinking water treatment chemicals – health effects
- 240 Drainfield trench product sizing for gravity dispersal onsite wastewater treatment and dispersal systems
- 245 Wastewater treatment systems - nitrogen reduction
- 305 Personal care products containing organic ingredients
- 321 Goldenseal root (*Hydrasitis canadensis*)
- 330 Glossary of drinking water treatment unit terminology
- 332 Sustainability assessment for resilient floor coverings
- 336 Sustainability assessment for commercial furnishings fabric
- 342 Sustainability assessment for wallcovering products
- 347 Sustainability assessment for single ply roofing membranes
- 350 Onsite residential and commercial water reuse treatment systems
- 350-1 Onsite residential and commercial greywater treatment systems for subsurface discharge
- 355 Greener chemicals and processes information
- 358-1 Polyethylene pipe and fittings for water-based ground-source “geothermal” heat pump systems
- 358-2 Polypropylene pipe and fittings for water-based ground-source “geothermal” heat pump systems
- 359 Valves for crosslinked polyethylene (PEX) water distribution tubing systems
- 360 Wastewater treatment systems – Field performance verification
- 363 Good Manufacturing Practices (GMP) for Pharmaceutical Excipients
- 372 Drinking water treatment system components – Lead content
- 401 Drinking water treatment units - Emerging compounds / incidental contaminants
- 416 Sustainability Assessment for Water Treatment Chemical Products
- 418 Residential wastewater effluent filters longevity testing
- 419 Public Drinking Water Equipment Performance – Filtration
- 14159-1 Hygiene requirements for the design of meat and poultry processing equipment
- 14159-2 Hygiene requirements for the design of hand held tools used in meat and poultry processing equipment
- 14159-3 Hygiene requirements for the design of mechanical belt conveyors used in meat and poultry processing equipment

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