Features

- Fixture and touchless flushometer combination is engineered for optimal performance
- Elongated bowl offers added room and comfort
- 2-1/8" (54 mm) fully glazed trapway
- 10" x 7" (254 mm x 178 mm) water surface
- 10" or 12" (254 or 305 mm) rough-in
- 1.0 gpf (3.8 lpf)
- Flush valve activation distance is factory-set
- No external flush volume adjustment ensures water conservation
- 24-hour automatic sentinel flush keeps trapway fresh
- Mechanical override enables flushometer to be used manually even during a power outage
- Chloramine and chlorine resistance on all rubber components exposed to waterway
- Locking stop cap provides protection against vandalism
- Powered by 1.5V AA lithium batteries
- For this combination, order K-96057 bowl and K-10TD00K10 flushometer

Material

- Vitreous china bowl
- Brass flush valve with durable Polished Chrome finish

Technology

- Electronic infrared sensor with Tripoint® technology for accurate activation
- Designed to outperform competitors in bowl cleanliness and plug resistance

Installation

- Seat sold separately

ADA	CSA B651	OBC

Codes/Standards

ASME A112.18.1/CSA B125.1
ASME A112.19.2/CSA B45.1
ASSE 1037/ASME A112.1037/CSA B125.37
DOE - Energy Policy Act 1992
EPA WaterSense®
California Energy Commission (CEC)
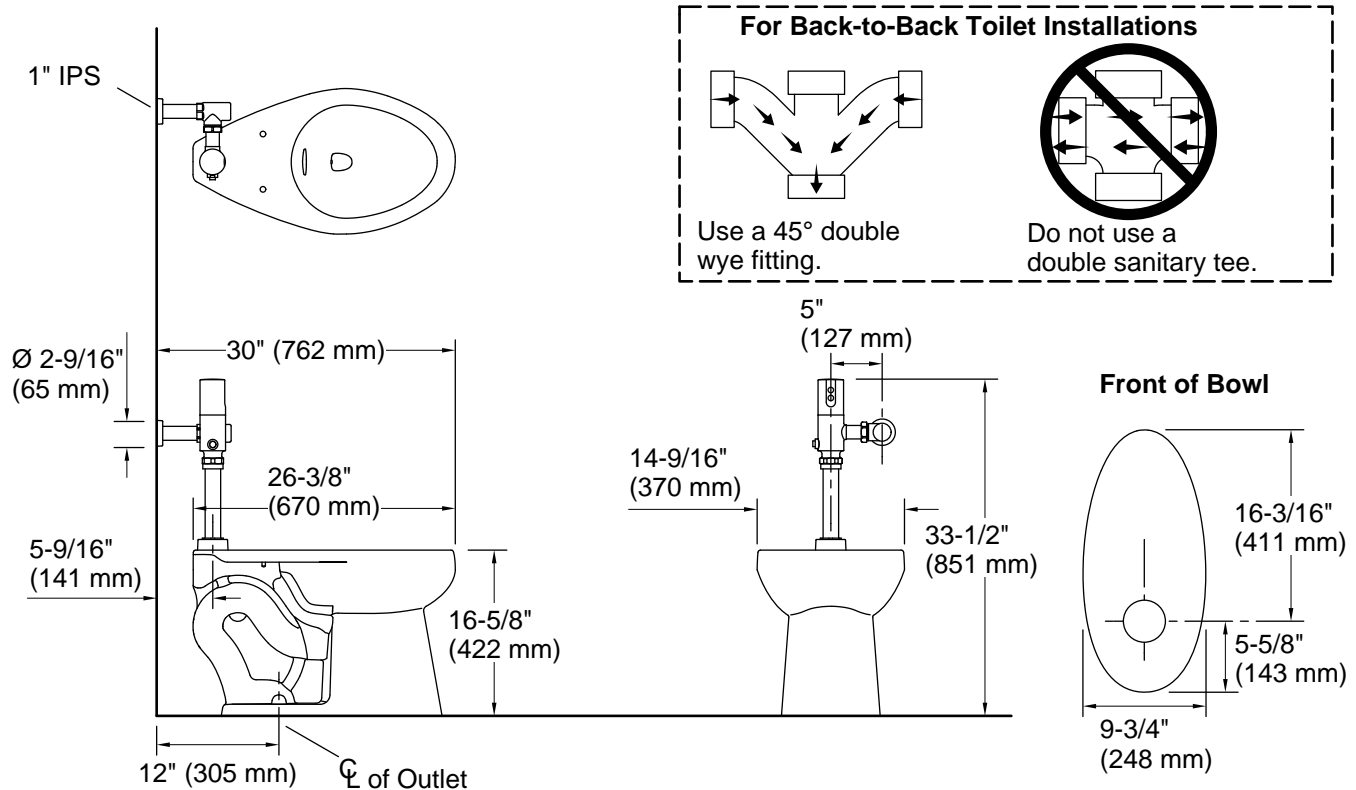ADA
ICC/ANSI A117.1
CSA B651
OBC

KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
11-12-2025 20:44 - US/CA

THE BOLD LOOK OF KOHLER.

1" IPS

For Back-to-Back Toilet Installations

Use a 45° double wye fitting.

Do not use a double sanitary tee.

Ø 2-9/16" (65 mm)

30" (762 mm)

5" (127 mm)

Front of Bowl

26-3/8" (670 mm)

14-9/16" (370 mm)

16-3/16" (411 mm)

5-9/16" (141 mm)

33-1/2" (851 mm)

16-5/8" (422 mm)

5-5/8" (143 mm)

12" (305 mm)

℄ of Outlet

9-3/4" (248 mm)

Technical Information
All product dimensions are nominal.

Toilet type:	Floor-mount
Waste Outlet:	Floor
Bowl shape:	Elongated
Spud size:	1 1/2", Inlet, Top
Trap passageway:	2-1/8" (54 mm)
Rim to water surface:	6" (152 mm)
Rough-in:	12" (305 mm)
Seat-mounting holes:	5-1/2" (140 mm)

Fixture Supply Requirements

Min static pressure:	35 psi (241.3 kPa)
Max static pressure:	80 psi (551.6 kPa)
Min flowing pressure:	25 psi (172.4 kPa)
Min flow rate:	25 gpm (94.6 lpm)

Notes
Install this product according to the installation instructions.

Product dimensions are nominal and may vary per ASME A112.19.2 tolerances.

ADA, OBC, CSA B651 compliant when installed to the specific requirements of these regulations.

For ADA installations, rear grab bar may need to be split or shifted.

Plumbing codes may require elongated toilets and elongated, open-front seats in public bathrooms.

Accessibility standards may require controls to be located on the open side of the toilet.

1-800-4KOHLER (1-800-456-4537)
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For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
11-12-2025 20:44 - US/CA

THE BOLD LOOK OF KOHLER

Features
- Elongated open-front seat.
- Ergonomic contour adds additional comfort.
- An integrated handle allows the user to easily raise and lower the ring.
- Stainless steel hinge arms and hardware.
- Heavy duty.
- Without cover.
- Quiet-Close™ check hinge will slowly close with check hinge functionality.

Material
- Made of solid polypropylene and is resistant to staining, fading, chipping and peeling.

Codes/Standards
None Applicable

KOHLER® One-Year Limited Warranty
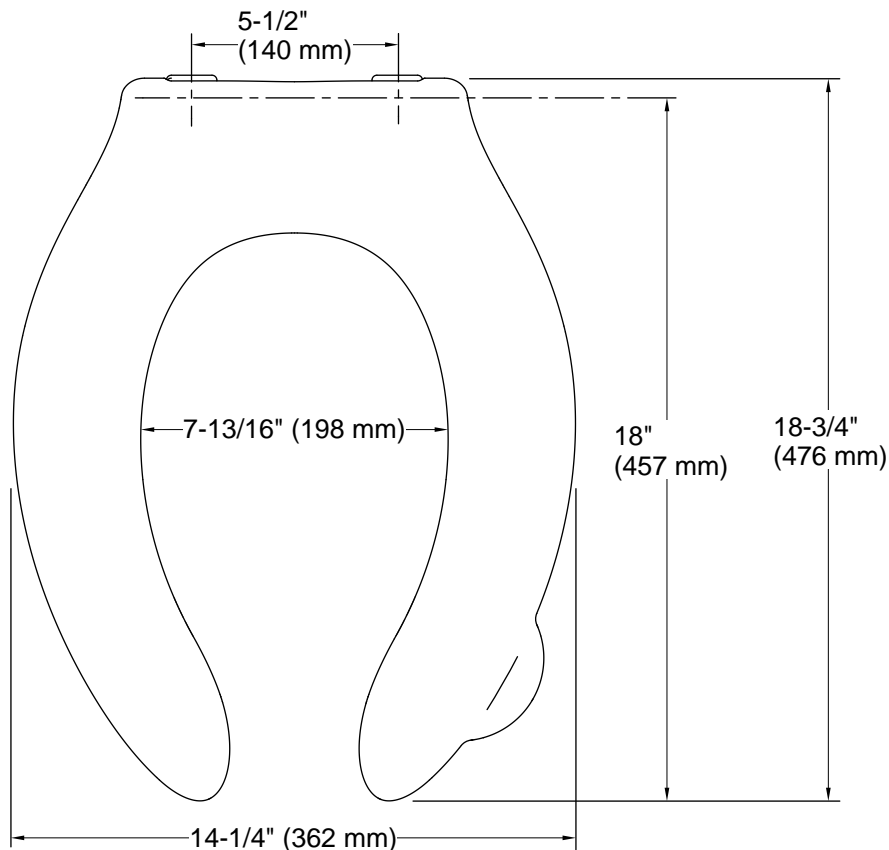See website for detailed warranty information.

Available Colors/Finishes
Color tiles intended for reference only.

Color	Code	Description
✓	0	White
	7	Black Black™

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com.

THE BOLD LOOK
OF **KOHLER**®

5-1/2"
(140 mm)

7-13/16" (198 mm)

18"
(457 mm)

18-3/4"
(476 mm)

14-1/4" (362 mm)

Technical Information

All product dimensions are nominal.

Seat shape type:	Elongated
Seat front type:	Open-front
Seat hinge type:	Check
Seat-mounting holes:	5-1/2" (140 mm)

Notes

Install this product according to the installation guide.

1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com.

THE BOLD LOOK
OF **KOHLER®**

Features
- Fixture and touchless flushometer combination is engineered for optimal performance
- Washout urinal
- 0.5 gpf (1.9 lpf)
- 3/4" (19 mm) top spud
- Flush valve activation distance is factory-set
- No external flush volume adjustment ensures water conservation
- 24-hour automatic sentinel flush keeps trapway fresh
- Mechanical override enables flushometer to be used manually even during a power outage
- Chloramine and chlorine resistance on all rubber components exposed to waterway
- Locking stop cap provides protection against vandalism
- 125-micron filter protects internal components
- High back pressure vacuum breaker
- Powered by 1.5V AA lithium batteries
- For this combination, order K-20713-ET urinal and K-10UD00G20 flushometer
- Patented piston technology for superior flush volume accuracy
- This product can help a building earn Water Efficiency points in LEED® Green Building Rating System

Material
- Vitreous china urinal
- Brass flush valve with durable Polished Chrome finish

Technology
- Electronic infrared sensor with Tripoint® technology for accurate activation

ADA

WaterSense
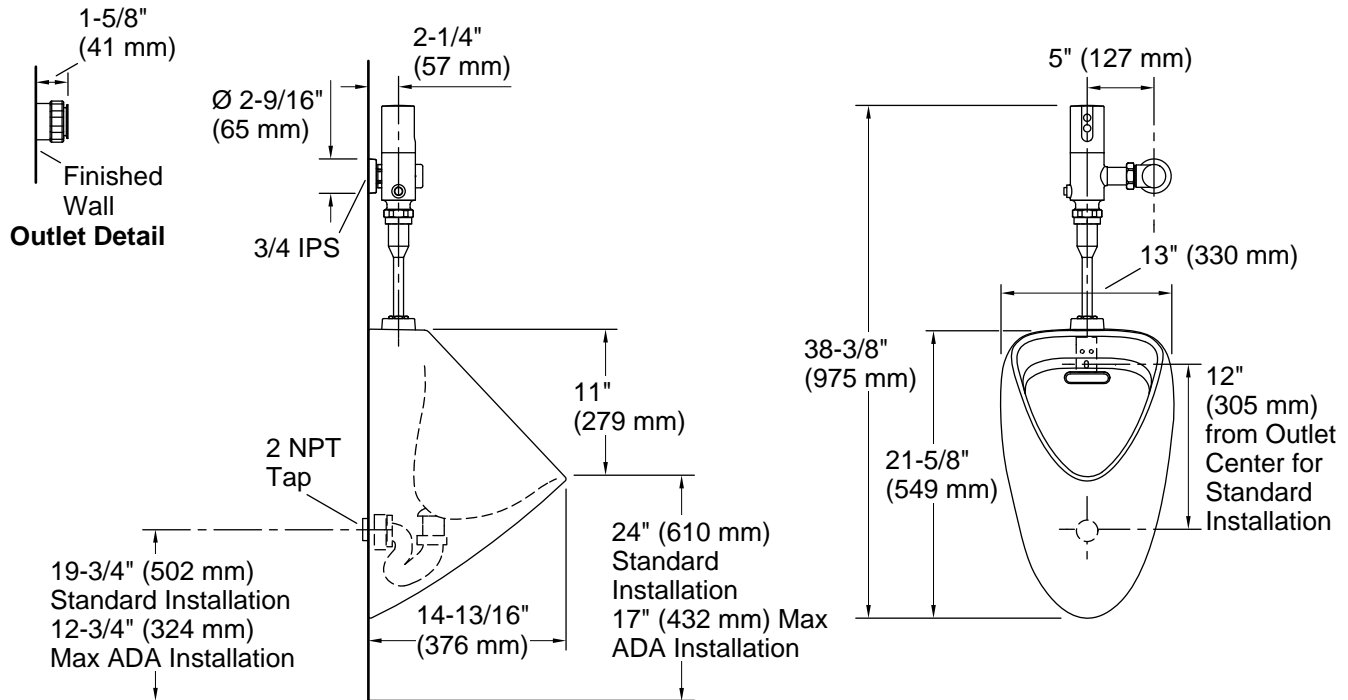Meets EPA Criteria
Certified by
IAPMO R&T

Codes/Standards
ASME A112.18.1/CSA B125.1
ASME A112.19.2/CSA B45.1
ASSE 1037/ASME A112.1037/CSA B125.37
DOE - Energy Policy Act 1992
EPA WaterSense®
ADA
ICC/ANSI A117.1

KOHLER® One-Year Limited Warranty
See website for detailed warranty information.

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
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THE BOLD LOOK
OF KOHLER

Note: Customer Connection Pipe must have 2 NPT External Thread.

1-5/8"
(41 mm)

Finished Wall
Outlet Detail

2-1/4"
(57 mm)

Ø 2-9/16"
(65 mm)

3/4 IPS

11"
(279 mm)

2 NPT Tap

24" (610 mm) Standard Installation
17" (432 mm) Max ADA Installation

19-3/4" (502 mm) Standard Installation
12-3/4" (324 mm) Max ADA Installation

14-13/16"
(376 mm)

5" (127 mm)

13" (330 mm)

38-3/8"
(975 mm)

21-5/8"
(549 mm)

12" (305 mm) from Outlet Center for Standard Installation

Technical Information

All product dimensions are nominal.

Spud size:	3/4", Outlet, Top
Min. Water per Flush:	0.5 gpf (1.9 lpf)
Max. Water per Flush:	0.5 gpf (1.9 lpf)

Designed for the above water use when installed with a water-saving flushometer.

Pressure and Supply Requirements

Fixture pressure min (static):	25 psi (172.4 kPa)
Fixture flow rate min:	25 gpm (94.6 lpm)
Fixture pressure max (static):	80 psi (551.6 kPa)

Notes

Install this product according to the installation instructions.

Product dimensions are nominal and may vary per ASME A112.19.2 tolerances.

ADA compliant when installed to the specific requirements of these regulations.

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
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THE BOLD LOOK
OF KOHLER®

Hanger Kit

1224196 (replaces 64512)

Features
- Single faucet hole
- Oval basin
- Overflow drain

Material
- KOHLER® enameled cast iron

Installation
- Drop-in

Recommended Products/Accessories
K-8998 P-Trap
K-23726 Drain treatment
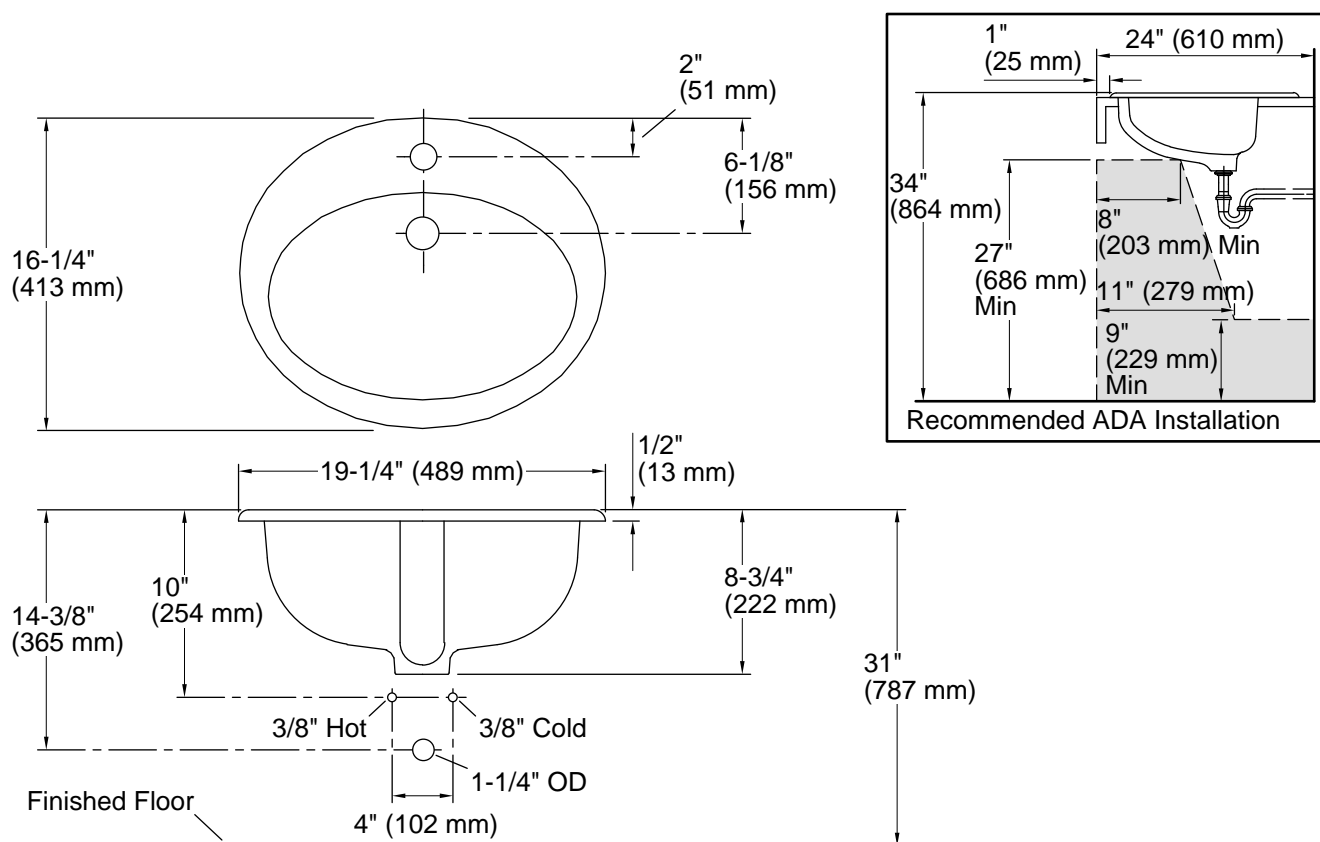K-23725 Cast iron cleaner

ADA	CSA B651	OBC

Codes/Standards
ASME A112.19.1/CSA B45.2
ADA
ICC/ANSI A117.1
CSA B651
OBC

KOHLER® Enameled Cast Iron Kitchen and Bathroom Sink Lifetime Limited Warranty
See website for detailed warranty information.

Available Colors/Finishes
Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit
	7	Black Black™

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
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THE BOLD LOOK
OF KOHLER.

2"
(51 mm)

6-1/8"
(156 mm)

16-1/4"
(413 mm)

1"
(25 mm)

24" (610 mm)

34"
(864 mm)

27"
(686 mm)
Min

8"
(203 mm) Min

11" (279 mm)

9"
(229 mm)
Min

Recommended ADA Installation

1/2"
(13 mm)

19-1/4" (489 mm)

10"
(254 mm)

8-3/4"
(222 mm)

14-3/8"
(365 mm)

31"
(787 mm)

3/8" Hot

3/8" Cold

1-1/4" OD

4" (102 mm)

Finished Floor

Technical Information

All product dimensions are nominal.

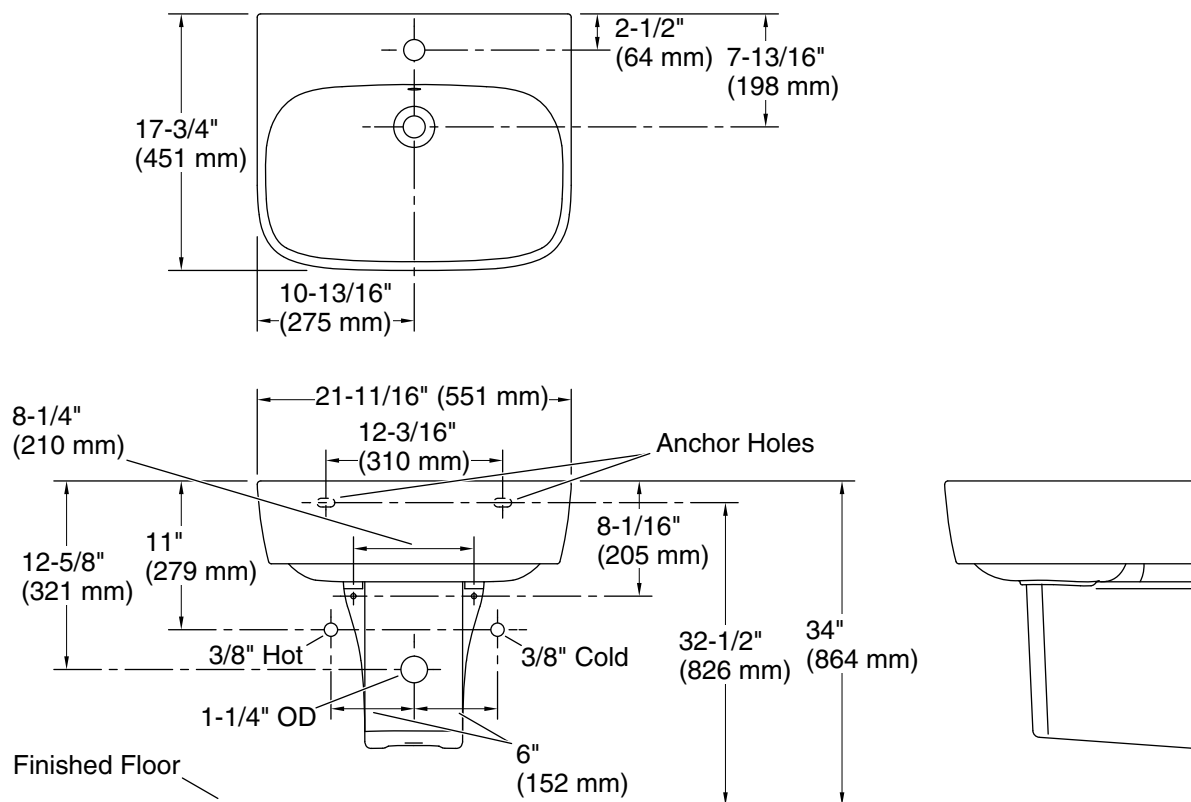|	
Basin configuration:	Single Bowl
Bowl area:	Length: 16" (406 mm)
	Width: 11" (279 mm)
	Water depth: 5" (127 mm)
With overflow:	Yes
Number of deck holes:	1
Faucet hole(s):	1-3/8" (35 mm)
Drain hole:	1-11/16" (43 mm)
Template:	1002973-7, required, included

Notes

Install this product according to the installation instructions.

NOTICE: Countertop manufacturer or cutter must use the current product template available at www.kohler.com, or by calling 1-800-4KOHLER. Kohler Co. is not responsible for cutout errors when the incorrect cutout template is used.

ADA, OBC, CSA B651 compliant when installed to the specific requirements of these regulations.

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
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THE BOLD LOOK
OF KOHLER®

SLOAN.

24"
(610 mm)

2" min.
(51 mm)

34"
(864 mm)

8" min.
(203 mm)

ADA
BARRIER
FREE
AREA

27"
(686 mm)

9" min.
(229 mm)

6" max.
(152 mm)

20" (508 mm)

16 1/2" (419 mm)

8" (203 mm)

4" (101 mm)

2 3/4" (70 mm)

17"
(431 mm)

7 1/2"
(191 mm)

7"
(177 mm)

2-1/2"
(64 mm) 7-13/16"
(198 mm)

17-3/4"
(451 mm)

10-13/16"
(275 mm)

21-11/16" (551 mm)

12-3/16"
(310 mm)

Anchor Holes

8-1/4"
(210 mm)

8-1/16"
(205 mm)

12-5/8"
(321 mm)

11"
(279 mm)

3/8" Hot   3/8" Cold

32-1/2"   34"
(826 mm)   (864 mm)

1-1/4" OD

6"
(152 mm)

Finished Floor

Technical Information

All product dimensions are nominal.

Basin configuration:	Single Bowl
Bowl area (Basin #1):	Length: 19-3/4" (501 mm) Width: 11-13/16" (299 mm) Bowl depth: 6-1/2" (165 mm)
With overflow:	Yes
Number of deck holes:	1
Drain hole:	1-3/4" (44 mm)

Notes

Install this product according to the installation instructions.

Product dimensions are nominal and may vary per ASME A112.19.2 tolerances.

THE BOLD LOOK
OF KOHLER®

Features
- Rectangular basin
- With overflow
- Single center-mount faucet hole
- Combination consists of basin and shroud
- Coordinates with other products in the ModernLife collection

Material
- Vitreous china

Installation
- Wall-mount with shroud

Recommended Products/Accessories
K-23725 Cast iron cleaner

Included Components
K-77767-1 21-3/4" rectangular wall-mount bathroom sink
K-18566 bathroom sink shroud

Codes/Standards
ASME A112.19.2/CSA B45.1

KOHLER® Vitreous China Bathroom Sink Lifetime Limited Warranty
See website for detailed warranty information.

Available Colors/Finishes
Color tiles intended for reference only.

Color	Code	Description
	0	White

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada
1-19-2026 21:59 - US/CA

THE BOLD LOOK
OF KOHLER®

CODE NUMBER

3335127

DESCRIPTION

Hardwired Less Transformer Power Supply, Integrated Side Mixer, Polished Chrome Finish, 1.0 gpm, Aerated Spray, Infrared Sensor, Optima® Hardwired-Powered Deck-Mounted Mid Body Faucet.

DETAILS

- Flow Rate: 1.0 gpm (4 Lpm) (1.0GPM)
- Spray Type: Aerated (AER)
- Sensor Type: Infrared (IR)
- Mounting Type: Single Hole ()
- Power Supply: Hardwired Less Transformer (HLT)
- Temperature Mixer: Integrated Side Mixer (ISM)
- Finish: Polished Chrome (CP)
- Factory Default Timeout: 30s
- Factory Default GPC: 0.5

FEATURES

Commercial Grade, ADA Compliant, Electronic, Sensor-Activated, Cast Brass Hand Washing Faucet with the following features:

- Double Infrared Sensors with Automatic Setup and Indicator Light
- Automatic Self-adapting Sensor Technology
- Magnetic Solenoid Valve
- Water Supply Connection with Flexible High-pressure Hose and Strainer
- 6 Volt DC Plug-in Adapter (must be ordered separately for Less transformer (-LT) faucets)
- Daisy Chain Electrical Splitter Cable included with Less transformer (-LT) faucets
- Appropriate Mounting Hardware included
- Optional 24 Hour Sentinel Activation
- IQ-Click feature permits activation of continuous run and temporary off modes
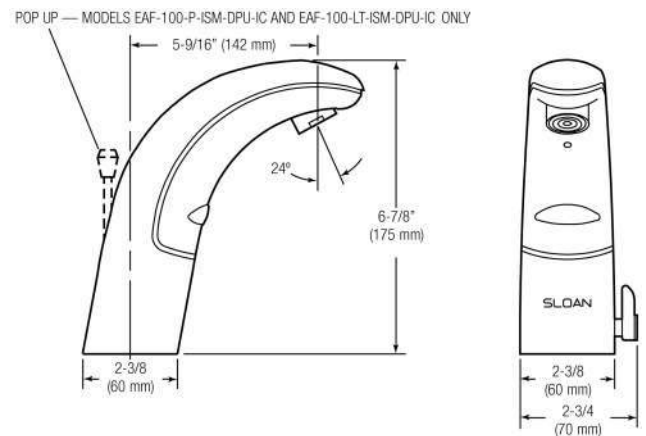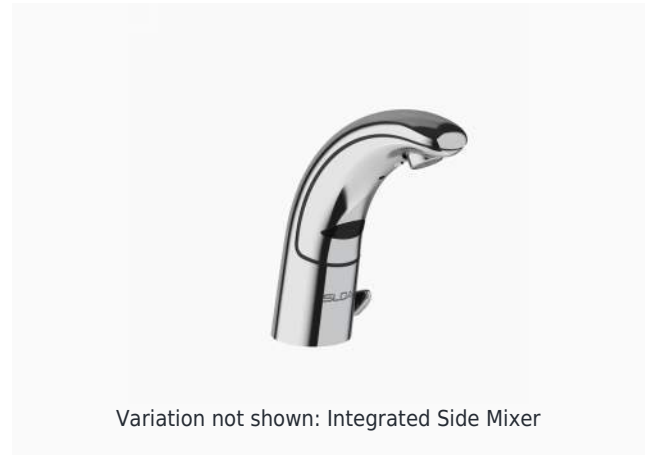
ELECTRICAL SPECIFICATIONS

- Battery Life: 3 years 8,000 cycles/month
  - Optional power harvesting significantly extends service life
- Self-Adjustment Range: 0" (0mm)
- Sensor Range: 0" (0mm)
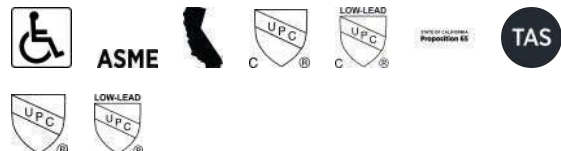- Timeout Adjustment Settings: 30s

VIDEOS

▶ Sloan Connect App®

DOWNLOADS

- EAF 100/150 Installation Instructions
- EAF 100/150 (SP) Installation Instructions
- Optima Plus EAF 100 Repair and Maintenance Guide
- Faucet Spray Heads Repair and Maintenance Guide

Variation not shown: Integrated Side Mixer

COMPLIANCES & CERTIFICATIONS

(ADA Compliant, ASME A112.18.1 Compliant, CEC Compliant, cUPC Certified, cUPC Low Lead Compliant, Proposition 65, TAS, UPC Certified, UPC Low Lead Compliant)

NOTES

All information contained within this document subject to change without notice.

Looking for other variations of the EAF-100 product? View the general spec sheet with all options.

Find a matching soap dispenser for this faucet.
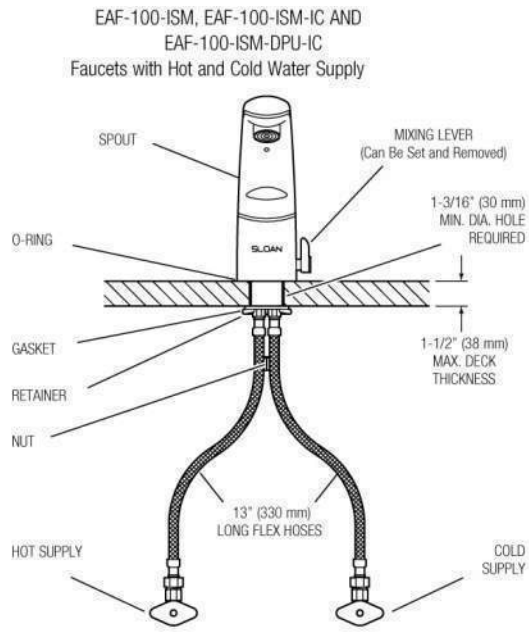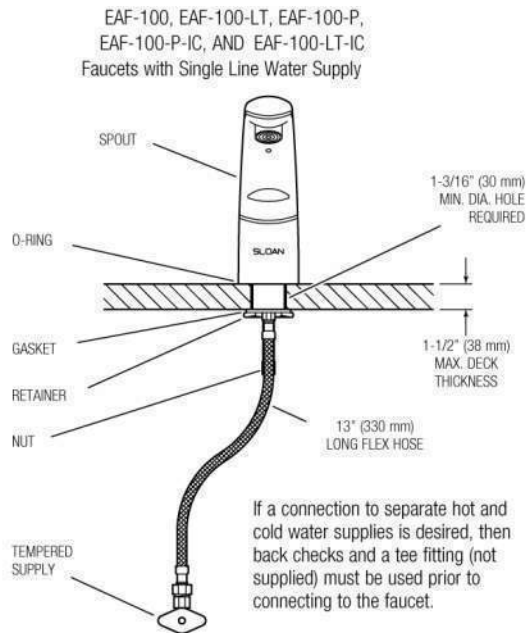Find a compatible sink for this faucet.

WARRANTY

3 Year

● Additional Downloads

ROUGH-IN

EAF-100, EAF-100-LT, EAF-100-P,
EAF-100-P-IC, AND EAF-100-LT-IC
Faucets with Single Line Water Supply

SPOUT

1-3/16" (30 mm)
MIN. DIA. HOLE
REQUIRED

O-RING

GASKET

1-1/2" (38 mm)
MAX. DECK
THICKNESS

RETAINER

NUT

13" (330 mm)
LONG FLEX HOSE

If a connection to separate hot and
cold water supplies is desired, then
back checks and a tee fitting (not
supplied) must be used prior to
connecting to the faucet.

TEMPERED
SUPPLY

EAF-100-ISM, EAF-100-ISM-IC AND
EAF-100-ISM-DPU-IC
Faucets with Hot and Cold Water Supply

SPOUT

MIXING LEVER
(Can Be Set and Removed)

1-3/16" (30 mm)
MIN. DIA. HOLE
REQUIRED

O-RING

GASKET

1-1/2" (38 mm)
MAX. DECK
THICKNESS

RETAINER

NUT

13" (330 mm)
LONG FLEX HOSES

HOT SUPPLY

COLD
SUPPLY

When the EAF faucet is installed
on a sink that has three (3) hole
punchings, a Trim Plate should
be used. Trim Plates must
be specified and ordered
separately:

SFP-11
Trim Plate for 4" (102 mm)
Centerset Sink

SFP-22
Trim Plate for 8" (204 mm)
Centerset Sink

KOHLER®

Features
- Oval basin with glazed underside.
- No faucet holes; requires wall- or counter-mount faucet.

Material
- Vitreous china.

Installation
- Undermount.

Recommended Products/Accessories
K-8998 P-Trap
K-23726 Drain treatment
K-23725 Cast iron cleaner

Included Components
Additional Components:
1193643 Basin clamps

ADA

Codes/Standards
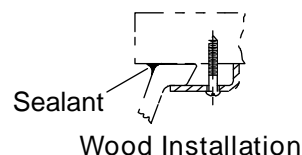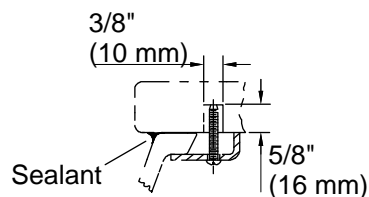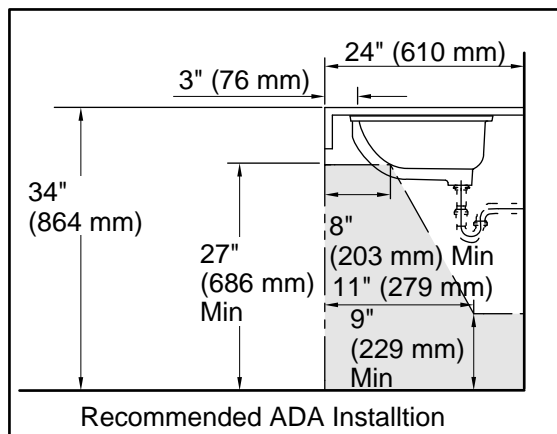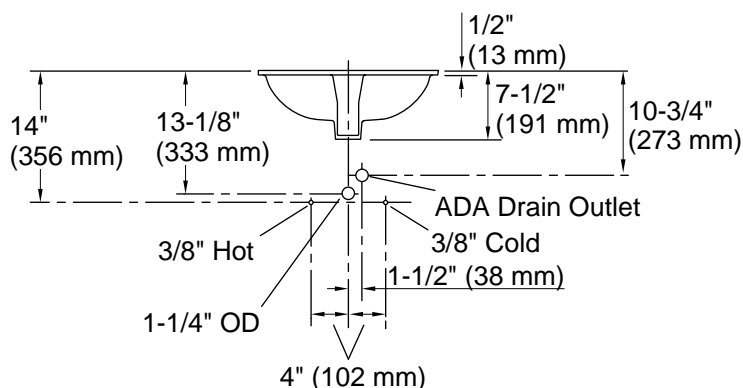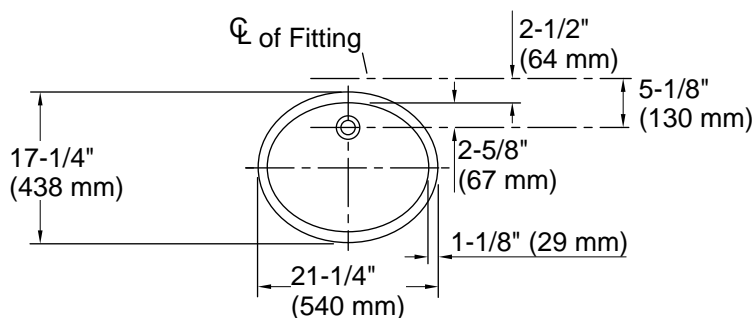ASME A112.19.2/CSA B45.1
ADA
ICC/ANSI A117.1

KOHLER® One-Year Limited Warranty
See website for detailed warranty information.

Available Colors/Finishes
Color tiles intended for reference only.

Color	Code	Description
✓	0	White
	96	Biscuit
	47	Almond

1-800-4KOHLER (1-800-456-4537)
Kohler Co. reserves the right to make revisions without notice to product specifications.
For the most current Specification Sheet, go to www.kohler.com.

THE BOLD LOOK
OF **KOHLER**

℄ of Fitting

2-1/2" (64 mm)

5-1/8" (130 mm)

2-5/8" (67 mm)

17-1/4" (438 mm)

1-1/8" (29 mm)

21-1/4" (540 mm)

24" (610 mm)

3" (76 mm)

34" (864 mm)

27" (686 mm) Min

8" (203 mm) Min

11" (279 mm)

9" (229 mm) Min

Recommended ADA Installtion

1/2" (13 mm)

7-1/2" (191 mm)

10-3/4" (273 mm)

14" (356 mm)

13-1/8" (333 mm)

ADA Drain Outlet

3/8" Hot

3/8" Cold

1-1/2" (38 mm)

1-1/4" OD

4" (102 mm)

3/8" (10 mm)

Sealant

5/8" (16 mm)

Marble Installation

Sealant

Wood Installation

Technical Information

All product dimensions are nominal.

Installation:	Under-mount
Bowl area:	Length: 19" (483 mm)
	Width: 15" (381 mm)
	Water depth: 4" (102 mm)
Drain hole:	1-3/4" (44 mm)
Template:	1018997-7, required, not included

Notes

Install this product according to the installation instructions.

NOTICE: Countertop manufacturer or cutter must use the current product template available at www.kohler.com, or by calling 1-800-4KOHLER. Kohler Co. is not responsible for cutout errors when the incorrect cutout template is used.

ADA compliant when installed to the specific requirements of these regulations.

1-800-4KOHLER (1-800-456-4537)
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For the most current Specification Sheet, go to www.kohler.com.

THE BOLD LOOK OF KOHLER®

ADJUSTABLE FLOOR DRAIN WITH DECK FLANGE

>> **822 SERIES**   Halo™

SPECIFICATION

Sioux Chief 822 series adjustable floor drain shall be used where necessary in drainage systems. Floor drain shall have an 18 gauge stainless steel deck/mounting flange and ABS/PVC body with Sch. 40 hub connection. Floor drain shall allow adjustment of ¾" above the deck flange. Strainer shall be heel-proof and meet applicable load requirements for intended use. Trap primer port shall be threaded ½" FIP for optional connection. Designed in accordance with ASME A112.6.3-2001.

MATERIALS

Ring/strainer: nickel-bronze, 301 stainless steel, 430 stainless steel
Head adapter: ABS
Deck flange: 18-gauge 430 stainless
Base adapter: ABS, PVC

STRAINER LOAD RATING

Nickel-bronze: 1,000 lbs. (light duty, pedestrian traffic)
Stainless steel: 2,000 lbs. (light duty, pedestrian traffic)
18GA Stainless steel: 500 lbs. (light duty, pedestrian traffic)

STRAINER FREE AREA

Round: 7.5 in² (22.75 GPM*)
Square: 12.75 in² (39 GPM*)
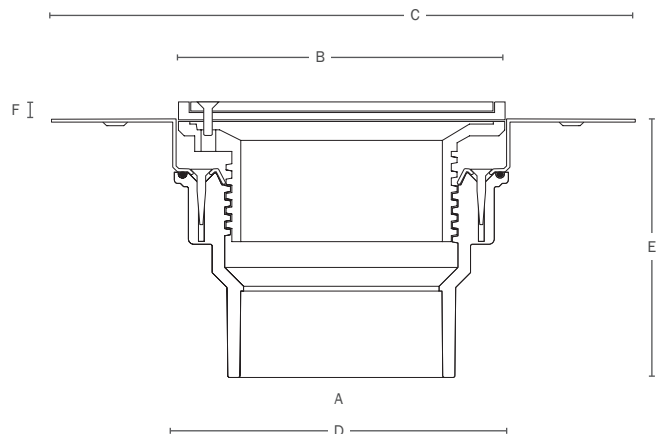**18GA:** 5.75 in² (17.5 GPM*)

822-3PSQ

DIMENSIONS

A: Connection size**   2"×3" or 3"×4" Sch. 40 hub
B: Ring/strainer diameter
    round / square / 18GA   5½" / 5⅞" / 5⅜"
C: Flange diameter   9½"
D: Body diameter   5⅞"
E: Body height   4⅜"
F: Adjustable finish height***
    round / square / 18GA   0" - ¾" / 5/16" - ¾" / 0" - ½"

* indicates the flow rate of the strainer (not necessarily of the fixture) at ½" head
** Base adapters fit over 2" / inside 3" or over 3" / inside 4" pipe.
*** When using optional clamping collar, min dimension is ½" for cast ring/strainers

Create Item Number

822-A B C D

e.g. 822-3PNRV: 3" Sch. 40 hub adjustable floor drain with deck flange and round nickel-bronze strainer with vandal-resistant screws

A: CLAMPING COLLAR
(skip this option if collar is not needed)
☐ **M** = Clamping collar kit
(No collar is standard, unless otherwise specified

B: CONNECTION
☑ **2A** = 2" ABS Sch. 40 hub
☐ **2P** = 2" PVC Sch. 40 hub
☐ **3A** = 3" ABS Sch. 40 hub
☐ **3P** = 3" PVC Sch. 40 hub

C: STRAINER TYPE
☑ **NR** = Round nickel-bronze
☐ **SR** = Round stainless steel
☐ **NQ** = Square nickel-bronze
☐ **SQ** = Square stainless steel
☐ **S** = 18 gauge stainless steel[1]

D: OPTIONS
☐ **V** = Vandal-resistant strainer screws
☐ **B** = Complied with Buy American Act[2]
☐ **E** = 1¼" extended strainer rim[2]

ACCESSORIES

822-EX3   Threaded extension adapter. Extends head 1¾" (min) to 3⅜" (max) above deck flange
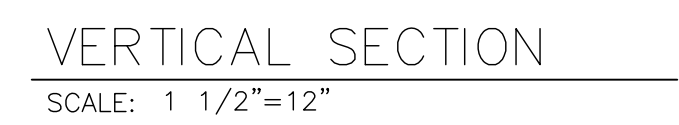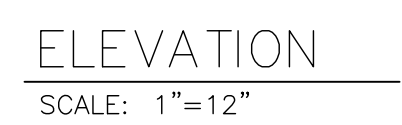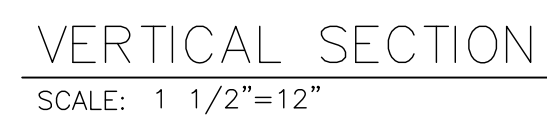**822-TB**   Threaded bushing. Glues over 3" Sch. 40 when using pipe for head extension.
863-FN   Round nik-brz condensate funnel
863-FA   Round aluminum condensate funnel

1 Drain head creates plastic rim around strainer
2 Available only for round nickel-bronze ring/strainer

PLAN
SCALE: 1"=12'

20"

1½"

HAND DRYER
BY OTHERS

25"

SS | 1

66½" VIF

VERTICAL SECTION
SCALE: 1 1/2"=12"

½"

Z-CLIP, TYP.

IN-WALL
BLOCKING BY
OTHERS

HAND DRYER BY
OTHERS

28" 40"
43"

SS | 1
SOLID SURFACE
WALL PANEL
WITH 1¼" DROP
WITH EASED
EDGES ON 1"
PLYWD

9"

3"

TILE BASE BY
OTHERS

ELEVATION
SCALE: 1"=12'

MIRROR
BY OTHERS

SINK & FAUCET
BY OTHERS

SS | 1

4"
5"

34"
29"

TILE BY
OTHERS

33¼" 33¼"
66½" VIF

ELEVATION
SCALE: 1"=12'

B 3

3¾" VIF
20"

HAND DRYER
BY OTHERS

C 3

40"
43"

SS | 1

TILE BASE
BY OTHERS

VERTICAL SECTION
SCALE: 1 1/2"=12"

MIRROR
BY OTHERS

SINK & FAUCET
BY OTHERS

SS | 1
SOLID SURFACE
BACK & SIDE
SPLASH

SS | 1
SOLID SURFACE
COUNTERTOP WITH 1¼"
DROP WITH EASED
EDGES ON ¾" MARINE
GRADE PLYWD

25"

4"

1¼"

¾"

SS | 1
SOLID SURFACE
APRON

RAKKS EH-1818
IN-WALL BRACKET
COLOR: BLACK

31½"

34"
29½"

PRODUCT DESCRIPTION

Melamine-impregnated decorative surface papers are combined with phenolic-treated kraft paper and consolidated in a press at high pressures. The sheet back is sanded to maintain a uniform thickness and facilitate bonding.

COLORS AND FINISH

Formica® Brand Laminate sheets (horizontal general purpose grade 10/HGS) are available in a broad selection of designs and colors. Standard finishes for each pattern are detailed in the *Formica Corporation - National Product Guide* (Form No. 02-034W). Not all finishes are available in all Solid Colors / Patterns / Woodgrains. All Grade 10 material is Make-to-Order, with the exception of Formica Architectural Doors

Formica Brand Laminate sheets (horizontal post-forming grade 12/HGP and vertical post-forming grade 20/VGP) are available in a broad selection of designs and colors. Standard finishes for each pattern are detailed in the *Formica Corporation - National Product Guide* (Form No. 02-034W). Not all finishes are available in all Solid Colors / Patterns / Woodgrains.

RECOMMENDED APPLICATION

Grade 10/HGS

Formica Brand Laminate – general purpose grade 10/HGS is intended for application to interior horizontal or vertical surfaces where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

Grade 12 /HGP

Formica Brand Laminate – post-forming laminate grade 12/HGP is intended for application to interior horizontal or vertical surfaces requiring 1/2" (12.7mm) or greater outside radiused edges, and/or 3/16" (4.8mm) cove radii, where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

Grade 20/ VGP

Formica Brand Laminate – post-forming grade 20/VGP is intended for application to interior vertical surfaces requiring 3/8" (9.5mm) or greater outside radiused edges, where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

FABRICATION AND ASSEMBLY

LIMITATIONS

Formica Brand Laminate is designed for interior use only. Do not adhere directly to plaster, drywall (gypsum board), or concrete. Do not use in areas exposed to temperatures exceeding 275°F (135°C) or for exterior applications. When using Grade 20, **finished panel widths should not exceed 24" (610mm) maximum,** unless the adhesive system is a rigid set adhesive like PVA (wood glue). We do not recommend contact adhesive for Grade 20 panels wider than 24" (610mm). When using Grade 20-90 gloss finish on a panel application, there will be a degree of telegraphing on the surface. Formica recommends using Grade 10-90 or 12-90 gloss for these applications.

MACHINING LOW SHEEN L AMINATE SHEETS

Formica Brand Laminate with low sheen surfaces are subject to marring. Fabricating with peel coat on surface (if applicable) is recommended. Router base should be clean and free of burrs and debris. Table saws should be clean, flat, and free of burrs.

STORAGE

Formica Brand Laminate 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

Prior to fabrication, allow laminate sheet and substrate to acclimate for at least 48 hours at the same ambient conditions. Optimum conditions are approximately 75°F (24°C), and relative humidity of 45% to 55%. Provisions should be made for the circulation of air around the materials.

SUBSTRATES

Formica Brand Laminate sheet should be bonded to an appropriate substrate such as Medium Density Fiberboard (MDF), or #45 density particleboard (ANSI A208.1 - 1999). A marginal substrate such as plywood may be used; however it must meet APA standards and be "A" faced, hardwood veneer or multi-ply core plywood. If you choose to use plywood Formica recommends F200, F270 or PVAc adhesives to bond HPL. Refer to the Substrate Tech Guide. Substrates should be sanded smooth, and should be clean, free of oil or grease, and uniform in thickness.

Formica Brand Laminate sheet (grade 10/HGS) can be bonded to metal substrates using contact adhesive (see recommendations below, under Adhesives). Refer to Formica® Laminate Brief - Veneered to Metal Substrates for General Information, Materials, Conditions and Methods. Formica Corporation does not warranty this particular application.

ADHESIVES

Contact, semi-rigid (PVAc), or rigid (urea, resorcinol) adhesives may be used. Follow the adhesive manufacturer's recommendations. Certain combinations of finish, substrate, and adhesive can cause telegraphing.

When bonding Formica Brand Laminate sheet (grade 10/ HGS) to metal substrates using contact adhesive, use Formica brand flammable solvent-based #155 or non-flammable solvent-based #120M contact adhesives. Do not use water-based or SBR types of contact adhesive when bonding laminate sheets to metal substrates.

ASSEMB LY

Material, equipment, and workmanship should conform to the Formica Corporation recommended standard practices, conditions, procedures, and recommendations as specified by ANSI/ NEMA LD3-2005, Architectural Woodwork Quality Standards and ANSI 161.2-1998 Standards.

Formica Brand Laminate sheets (grade 10, 12, and 20) can be sawed, drilled, routed, and fabricated using standard carbide tipped cutting tools.

Holes for screws or bolts should be drilled oversized.

Panel assemblies should be laminated with the appropriate backing sheet to minimize warpage. Formica backing sheets (grade 91/BKV or 92/BKH) are recommended for less critical applications. Optimum balancing is obtained by bonding the same surface laminate on both sides of the assembly with the same adhesive. Always align sanding marks in the same direction.

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. Panels fabricated using metal substrates, which are more dimensionally stable than wood-based materials, should be installed in a framing system, which captures the perimeter of the panel yet allows for the normal dimensional movement of the laminate. This is to protect the panel edge and prevent edge lifting or separation from the substrate, which can occur under dry conditions.

TECHNICAL DATA

Performance compliance of Formica Brand Laminate General purpose grade 10 and Post-forming grades 12 and 20

ANSI / NEMA STANDARDS PUBLICATION — LD3 -2005

PHYSICAL PROPERTIES	LD3 TEST	10/HGS
Appearance	3.1	No ABC Defects
Light Resistance	3.3	Slight
Cleanability	3.4	20 (max.)
Stain Resistance	3.4	
Reagents 1 - 10		No Effect
Reagents 11 - 15		Moderate
Boiling Water Resistance	3.5	No Effect
High Temperature Resistance	3.6	Slight
Ball Impact Resistance - in	3.8	50 (min.)
- mm		1270 (min.)
Radiant Heat Resistance - sec	3.10	125 (min.)
Dimensional Change	3.11	
Machine Direction - %		0.50 (max.)
Cross Direction - %		0.90 (max.)
Wear Resistance - cycles	3.13	400 (min.)

PHYSICAL PROPERTIES	LD3 TEST	12/HGP	20/VGP
Appearance	3.1	No ABC Defects	No ABC Defects
Light Resistance	3.3	Slight	Slight
Cleanability	3.4	20 (max.)	20 (max.)
Stain Resistance	3.4		
Reagents 1 - 10		No Effect	No Effect
Reagents 11 - 15		Moderate	Moderate
Boiling Water Resistance	3.5	Slight	Slight
High Temperature Resistance	3.6	Slight	Slight
Ball Impact Resistance - in	3.8	30 (min.)	20 (min.)
- mm		762 (min.)	508 (min.)
Radiant Heat Resistance - sec	3.10	100 (min.)	80 (min.)
Dimensional Change	3.11		
Machine Direction - %		1.1 (max.)	1.1 (max.)
Cross Direction - %		1.4 (max.)	1.4 (max.)
Wear Resistance - cycles	3.13	400 (min.)	400 (min.)
Formability - in	3.14	5/8	1/2
- mm		16	12
Blister Resistance - sec	3.15	55	40

FIRE TEST DATA – ASTM E- 84

Formica Corporation conducts and maintains an active fire test- ing program to provide code regulators, architects, and designers with current information on a variety of panel assemblies. Fire test data using Formica® Brand Laminate sheets (grades 10/HGS, 12HGP, and 20/VGP) is available upon request. Contact Formica® Technical Services at 1-800-FORMICA™ (option 2) or 513-786-3578 for assistance.

CODES AND SPECIFICATIONS

FORMICA BRAND L AMINATE
(GENERAL PURPOSE — GRADE 10/HGS / HORIZONTAL APPLICATION)

FMVSS 302

NSF Standard 35

ASTM-G22 Approved

Greenguard Certification

FORMICA BRAND L AMINATE
(POST-FORMING — GRADE 12 /HGP / HORIZONTAL APPLICATION)

U.S. Federal Specification, LP-508-H, Style D, Type II, Class 1

FMVSS 302

NSF Standard 35

Greenguard Certification

FORMICA BRAND L AMINATE
(POST-FORMING — GRADE 20/ VGP / VERTICAL APPLICATION)

U.S. Federal Specification, LP-508-H, Style D, Type II, Class 2

CFR Part 3280 Manufacturing Home Construction and
   Safety Standards

FMVSS 302

NSF Standard 35

Greenguard Certification

SIZES

Sheet widths: 30" (762mm), 36" (914mm), 48" (1219mm), 60" (1524mm)
Sheet lengths: 96" (2438mm), 120" (3048mm), 144" (3658mm)
*Check National Product Guide for specific size options for a décor.

THICKNESS

	TYPICAL THICKNESS	NEMA THICKNESS RANGE
Grade 10 (HGS)	.044" (1.1mm)	.043" - .053" (1.08mm - 1.32mm)
Grade 12 (HGP)	.035" (0.9mm)	.034" - .044" (0.88mm - 1.12mm)
Grade 20 (VGP)	.027" (0.7mm)	.024" - .032" (0.6mm - 0.8mm)

WEIGHT PER SQUARE FOOT

Grade 10/HGS: 0.324 pounds
Grade 12/HGP: 0.252 pounds
Grade 20/VGP: 0.180 pounds

TO ORDER FORMICA BRAND LAMINATE SAMPLES, PLEASE CALL

U.S.: 1-800-FORMICA™ (select option 1)
Canada: 1-800-363-1405 for ZIP-CHIP service

HOW TO SPECIFY

Surface (and appropriate backing sheet) shall be Formica Brand Laminate by Formica Group, Cincinnati, Ohio.

COLOR NUMBER	
COLOR NAME	
GRADE	
FINISH	
SIZE	

USE AND CARE

Refer to *Formica Brand Laminate Use and Care Guide*

Formica Brand Laminate sheet may be cleaned with a damp cloth and mild detergent.

If in doubt about the suitability of a particular cleaner or detergent, check with its manufacturer. Use of abrasive cleaners, powders, scouring pads, steel wool, sandpaper, etc., can damage the finish of the decorative surface and are not recommended.

Acid or alkaline-based cleaners, compounds, etc., will mar, etch, corrode, and permanently discolor the decorative surface of laminate. Never use these materials on laminate, nor allow bottles, rags, etc., contaminated with them to contact the surface. Accidental spills or splatters from these harsh materials should be wiped off immediately, and the area cleaned thoroughly with a damp cloth.

LIMITED WARRANTY

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.**

DISCLAIMER OF WARRANTIES

THE WARRANTIES SET FORTH HEREIN OR IN FORMICA CORPORATION'S WARRANTY DOCUMENTS WITH RESPECT TO A PRODUCT ARE THE ONLY WARRANTIES MADE BY FORMICA CORPORATION IN CONNECTION WITH THESE PRODUCTS, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PRODUCTS SOLD BY FORMICA CORPORATION ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY FORMICA CORPORATION IN WRITING. FORMICA CORPORATION'S SOLE OBLIGATION FOR A REMEDY TO BUYER SHALL BE REPAIR OR REPLACEMENT OF NON-CONFORMING PRODUCTS, OR AT THE OPTION OF FORMICA CORPORATION, RETURN OF THE PRODUCT AND REFUND OF THE PURCHASE PRICE. BUYER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCTS PURCHASED, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

LIMITATION OF LIABILITY

No claim by buyer of any kind, including claims for indemnification, whether as to quality or amount of products delivered or for non-delivery of products, shall be greater in amount than the purchase price of the products in respect of which damages are claimed. **IN NO EVENT SHALL FORMICA CORPORATION BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, RELIANCE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OR COVER, OR LOSS OF PROFIT, REVENUE OR USE, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF BUYER TO ANY THIRD PARTY WITH RESPECT THERETO. BUYER SHALL INSPECT FOR NONCONFORMITY PROMPTLY UPON RECEIPT.** Failure by buyer to give Formica Corporation written notice of claim within 30 days from date of delivery or, in the case of non-delivery from the date fixed for delivery, shall constitute a waiver by buyer of all claims in respect of such products.

This limited warranty gives purchaser of Formica Brand Laminate specific legal rights. Other rights may be available and vary from state to state.

Any information or suggestion concerning application, specifications or compliances with codes and standards is provided solely for your convenient reference and without any representation as to accuracy or suitability. Formica Corporation disclaims any legal responsibility. The user must verify and test the suitability of any information or products for their own particular purpose of specific application.

MANUFACTURER

Formica Brand Laminate sheets are manufactured by Formica Corporation.

Formica Corporation
10155 Reading Road
Cincinnati, Ohio 45241-5279

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 and 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™; or fax (513) 786-3195. In Canada, call 1-800-363-1405. In Mexico, call (525) 530-3135.

Safety Data Sheet

PureBond® Domestic Veneer Core
Product ID#

(Prepared in accordance with OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 & GHS Rev 03)

SECTION 1: PRODUCT AND COMPANY INFORMATION

Trade Name:	PureBond brand name can be used together with these additional, proprietary Columbia sub-brand designations: JayCore®, KayCore®, CANAM Gold/CANAM Gold +/CANAM Silver, DesignEdge, MPX®, UV Wood (on PureBond panels), firststep®, LabCoat® (on PureBond panels), PlyPrints®, StainSelect® (on PureBond panels), Surelite®, Columbia Radius™ bending.plywood, Columbia Framestock, Appalachian Traditions (on PureBond substrates.)
Product Description:	Decorative hardwood plywood assembled with domestic veneer core in assemblies laminated with Columbia's proprietary, formaldehyde-free, soy-based PureBond assembly process. Domestic aspen/poplar veneer core lamination blanks and bending plywood without decorative hardwood face and back veneers laminated with Columbia's proprietary, formaldehyde-free, soy-based PureBond assembly process. Decorative rotary veneer and inner ply core veneer also covered by this document.
Synonyms:	NAF (No-added formaldehyde) or NAUF (No-added urea formaldehyde) decorative hardwood plywood.
Company:	Columbia Forest Products 7900 Triad Center Drive, Suite 200 Greensboro, NC 27409 1-800-637-1609

E-mail Address: www.columbiaforestproducts.com
24 Hour Emergency Phone: Contact: Paul Davis, Marketing Communications Manager
503-330-1852

SECTION 2: HAZARD IDENTIFICATION

NOTE: This product is not hazardous in the form in which is shipped by the manufacture but it may produce hazardous airborne levels of wood dust by downstream activities (e.g., grinding, sanding, cutting) creating potential hazards as described below:

Classification of the Substance Or Mixture
United States (US)

Safety Data Sheet

PureBond® Domestic Veneer Core
Product ID#

Classification according to OSHA 29 CFR 1910.1200 HCS

This product is generally an article but is regulated under OSHA for the release of wood dust during mechanical operations releasing dust. The classifications below are based upon wood dust.

Skin Irritation Category 2
Eye Irritation Category 2B
Respiratory Sensitization Category 1
Skin Sensitization Category 1
Carcinogen Category 1A
Specific Target Organ Toxicity Single Exposure Category 3: Respiratory Tract Irritation

Other Classifications:
Combustible Dust (OSHA Defined Hazard)   If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air.

Label elements

Label according to OSHA HCS 2012

Hazard pictograms

GHS07   GHS08

Signal word: Danger
Hazard statements: Causes skin irritation
                          Causes eye irritation
                          May cause allergy or asthma symptoms or breathing difficulties if inhaled
                          May cause an allergic skin reaction
                          May cause cancer via inhalation of respirable dust
                          May cause respiratory irritation
                          May form combustible dust concentrations in air

Precautionary statements
Prevention: Take precautionary measures against static discharge.
                          Avoid breathing dust.
                          Take off contaminated clothing and wash before reuse.

	In case of inadequate ventilation wear an approved respirator suitable for conditions of use.
	Do not eat, drink or smoke when manufacturing or installing this product.
Response:	IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
	If experiencing respiratory symptoms, following removal to fresh air, call a Doctor or other qualified medical professional.
	IF ON SKIN: Wash with plenty of soap and water.
	If skin irritation or rash occurs get medical advice/attention.
	If In Eyes: Rinse cautiously for several minutes. Remove contact lenses if present and easy to do so.
	If eye irritation persists, get medical advice.
Storage:	Store away from incompatible materials.
Disposal:	Dispose of waste and residues in accordance with local authority requirements.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures: Only hazardous components above the appropriate cut-off limit are shown below.

This product may produce hazardous airborne levels of wood dust while being handled by downstream users creating potential hazards as described below:

Component	CAS No.	Weight %	Hazard Classification According to Regulation
Wood Dust	Not listed RTECS #: ZC9850000	95.65%	**EU CLP:** Self Classified: Skin Irrit 2; Eye Irrit 2; Skin Sens 1; Resp Sens 1; STOT SE 3 (Resp Irrit), Carc 1A **OSHA HCS 2012**: Skin Irrit 2; Eye Irrit 2; Skin Sens 1; Resp Sens 1; STOT SE 3 (Resp Irrit), Carc 1A
Other components below the reportable levels. The specific chemical identity and/or percentage of composition has been held withheld as a trade secret		< 1%	

SECTION 4: FIRST AID MEASURES

Eye Contact: In case of eye contact, immediately rinse eyes thoroughly with plenty of water. If wearing contact lenses, remove only after initial rinse, and continue rinsing eyes for at least 15 minutes. If irritation occurs or persists, consult a physician.

Skin Contact:	In case of skin contact, while wearing protective gloves, carefully remove any contaminated clothing, including shoes, and wash skin thoroughly with soap and water. If irritation or symptoms occur or persist, consult a physician.
Inhalation:	Remove to fresh air. If any trouble breathing, get immediate medical attention. Administer artificial respiration if breathing has ceased. If irritation or symptoms occur or persist, consult a physician.
Ingestion:	Not applicable under normal use.

Notes for the Doctor: Any treatment that might be required for overexposure should be directed at the control of symptoms and the clinical conditions.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water, ammonium phosphate, sand.
Unsuitable Extinguishing Media:	Heavy water (or jet) stream may cause dust to become airborne and create a flash fire hazard or an explosive atmosphere.
Firefighting Procedures:	Follow established procedures for extinguishing wood source fire.
Unusual Fire and Explosion Hazard:	Hardwood plywood does not present an explosion hazard Sawing, sanding, or machining of hardwood plywood can produce wood dust as a by-product which may present an explosion hazard if a dust cloud contacts an ignition source. An airborne concentration of 40 grams of wood dust per cubic meter of air is often used as the LEL for wood dust. OSHA interprets the explosive level as having no visibility within 5 feet or less.
Hazardous Combustion Products:	Burning of Hardwood plywood can result in carbon monoxide, carbon monoxide, hydrogen cyanide, aldehydes, organic acids, and polynuclear aromatic compounds.
Further Information:	Flash point: 600°F for wood. Auto- ignition temp.: Varies (typically 400°F to 500°F (204°-260°C) Explosive limits in air: N/A for hardwood plywood. 40 g/m^3 (LEL) for wood dust.

NFPA Rating (Scale 0-4):   Health = 2   Fire = 1   Reactivity = 0

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges and against environmental release.

Personal Precautions and Protective Equipment: Pick up, vacuum, or sweep spills for recovery and/or disposal. Avoid generation of dust during clean-up. Wear goggles or safety glasses when manufacturing or machining any wood product. Wear NIOSH/MSHA approved respirator when the allowable limits may be exceeded. Other protective equipment, such as gloves and outer garments may be needed, depending on dust conditions

Environmental Precautions: Do not allow product to reach ground water, water courses, sewage, or drainage systems during clean-up.

Methods and Materials for Containment and Clean-up: All spills should be handled according to site requirements and based on precautions cited in the SDS. In the case of liquids, use proper absorbent materials. For laboratories and small-scale operations, incidental spills within a hood or enclosure should be cleaned by using a HEPA filtered vacuum or wet cleaning methods as appropriate. For large dry or liquid spills or those spills outside enclosure or hood, appropriate emergency response personnel should be notified. In manufacturing and large-scale operations, HEPA vacuuming prior to wet mopping or cleaning is required. See Sections 9 and 10 for additional physical, chemical, and hazard information.

Other Information: No further information is available.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: No special precautions for handling product. Use good safety and industrial hygiene practices. Avoid creating dusty conditions. Provide good ventilation where dust conditions cannot be avoided during cleanup. Place recovered wood dust in a container for proper disposal.

Safety Data Sheet

PureBond® Domestic Veneer Core
Product ID#

Conditions for Safe Storage:	Store in well ventilated area. Keep away from sources of ignition as dried wood dust may pose a combustible dust hazard..

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Guideline:

Exposure Limits:

Component	CAS No.	Agency	Exposure Limits
Wood Dust (all soft and hard woods)	Not listed RTECS #: ZC9850000	OSHA	PEL-TWA 15 mg/m^3 (total dust)
		OSHA	PEL-TWA 5 mg/m^3 (respirable dust)
		OSHA	PEL-TWA 5 mg/m^3 (recommended softwood and hardwood; see footnote[1] below)
		OSHA	STEL 10 mg/ mg/m^3 (recommended softwood and hardwood; ; see footnote below)
		ACGIH	TLV-TWA 1 mg/m^3 (certain hardwoods);
		ACGIH	TLV-TWA 5 mg/m^3 (softwood)
		ACGIH	TLV-STEL 10 mg/m^3

Engineering Controls:	Provide adequate ventilation and exhaust to keep airborne contaminant concentration levels below the OSHA PELs.
Eye/Face Protection:	Wear goggles or safety glasses when manufacturing or machining any wood product.
Skin Protection:	Wear protective gloves such as rubberized cloth, canvas or leather gloves to minimize potential mechanical irritation

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[1] In AFL-CIO v. OSHA 965 F. 2d 962 (11th Cir. 1992), the court overturned OSHA's 1989 Air Contaminants Rule, including the specific PELs for wood dust that OSHA had established at that time. The 1989 PELs were: TWA - 5 mg/m^3; STEL (15 min.) - 10.0 mg/m^3(all soft and hard woods except Western red cedar); Western red cedar TWA-2.5 mg/m^3. Wood dust is now officially regulated as an organic dust under the Particulates Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust categories at PELs noted under PART II of this MSDS. However, a number of states have incorporated provisions of the 1989 standard in their state plans. Additionally, OSHA has announced that it may cite companies under the OSH Act General Duty Clause under appropriate circumstances for non-compliance with the 1989 PELs.V1.2

from handling materials. Outer garments which cover the arms may be desirable in extremely dusty areas.

Respiratory Protection: Wear NIOSH/MSHA approved dust respirator when the allowable limits may be exceeded.

General Hygiene Considerations: Prevent/avoid creating/breathing dust. Wash after handling. Do not eat, drink, or smoke while manufacturing or installing this product.

Environmental Exposure Control: No data available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical Description: Hardwood veneers, unfinished and flat line UV finished multi-ply composite wood panels consisting of various combinations of hardwood or decorative veneer faces, bonded to other wood veneers using adhesives containing no added formaldehyde. Generally used in cabinets, furnishings, flooring, and in other non-structural applications. Typically provided as 50"X100" lay-on hardwood veneers, and 4' X 8' hardwood panels. Other dimensions of hardwood plywood and veneers are available. Thickness of products range from 1/42" of an inch to over 1".

Appearance/Odor: Normal for natural wood. Light to dark in color. Color and odor vary by species and expired time since processing.

Safety Relevant Basic Data

pH	Not applicable
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Auto- ignition temp.:	Varies (typically 400ºF to 500ºF (204º-260º C)
Explosive limits in air:	N/A for hardwood plywood. 40 g/m^3(LEL) for wood dust.
Flash point	600ºF for wood.
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable

Relative density	Not applicable
Specific gravity	Usually less than 1, but varies depending on wood species and moisture content.
Solubility(ies)	Insoluble.
Partition coefficient: n-octanol/water	Not applicable
Viscosity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable at normal temperature and storages condition.
Conditions to avoid:	Avoid open flame. Product may ignite at temperatures in excess of 400°F, depending on length of time of exposure.
Incompatible materials:	Oxidizing agents and drying oils.
Hazardous decomposition products:	Thermal and/or thermal oxidative decomposition of wood can produce irritating and toxic fumes and gases, including carbon monoxide, hydrogen cyanide, aldehydes, organic acids, and polynuclear aromatic compounds.
Hazardous polymerization:	Will not occur.
Sensitivity to static discharge:	May cause explosion in critical concentrations and conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological data have not been determined specifically for this product. Individual component information is listed below.

Acute Effects*:*

Wood dust:	No data available.
Eye Irritation:	Wood dust can cause mechanical irritation.
Skin Irritation:	Depending on species, wood dust may cause dermatitis on prolonged, repetitive contact.
Respiratory Irritation:	Wood dust may cause nasal dryness and/or irritation. Coughing, sneezing, wheezing, sinusitis, prolonged colds, and headaches have also been reported. It may aggravate

	pre-existing respiratory conditions or allergies. Wood dust may also cause nasal obstruction.
Respiratory Sensitization:	Wood dust may cause respiratory sensitization and/or irritation. Pre-existing respiratory disorders may be aggravated by exposure.
Skin Sensitization:	Wood dust from various species of wood may evoke allergic contact dermatitis in sensitized individuals.
Carcinogenicity:	Prolonged exposure to wood dust has been reported by some observers of European furniture workers to be associated with nasal cancer. IARC classifies wood dust as a carcinogen to humans (Group 1). This classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. IARC did not find sufficient evidence to associate cancers of the oropharynx, lung, lymphatic, and hematopoietic systems, stomach, colon, or rectum with exposure to wood dust. The National Toxicology Program (NTP) has also listed wood dust as a known human carcinogen. Wood dust is not listed as a carcinogen by ACGIH or OSHA. A large case control nasal cancer mortality study in North Carolina, Mississippi, Washington and Oregon (1962-1977) did not demonstrate an association between nasal cancer and occupations normally associated with wood dust.
Mutagenicity:	No data available.
Reproductive Effects:	No data available.
Specific Target Organ Toxicity Single Exposure:	May cause respiratory irritation.
Specific Target Organ Toxicity Repeated Exposure:	May cause damage to organs (respiratory system) through prolonged exposure.
Target Organs:	Eyes, skin, respiratory system.
Routes of Exposure:	Inhalation, dermal, eye.

Signs and Symptoms of Exposure:
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The ecological assessment of this material is based on an evaluation of wood dust component.

Ecotoxicity (Aquatic and Terrestrial):   No data available for wood dust.
Persistence/Degradability: Wood dust would be expected to be biodegradable.
Bioaccumulation/Accumulation: No data available for wood dust.

Mobility in Soil: No data available.
Results of PBT and vPvB Assessment: No data available.
Other Adverse Effects: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods: Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations. Incineration is the preferred method of disposal, when appropriate. Disposal is the responsibility of the generator.
Contaminated Packaging: Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations.

SECTION 14: TRANSPORT INFORMATION

This material is not regulated for transportation when it is shipped without mixture with other hazardous components. This classification is based on the evaluation of available information until full testing is completed or additional information is available to further classify hazards for transportation. Therefore, the use of PG I UN-specification packaging is recommended to ensure safe transportation of this material.

US DOT (Ground)   No data available
Proper Shipping Description: No data available
Canadian TDG (Ground)   No data available
Proper Shipping Description: No data available
ICAO (Air)   No data available
Proper Shipping Description: No data available
IMDG (Water)   No data available
Proper Shipping Description: No data available

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

United States

Wood dust (CAS# NA)	
Listed on SARA Section 313 (Specific toxic chemical listing). SARA Section 311/312 Hazard Class	Immediate (acute) health hazard Delayed (chronic) health hazard
Listed on OSHA	Wood products are not hazardous under the criteria of the federal OSHA Hazard communication Standard 29 CFR 1910.1200. However wood dust generated by sawing, sanding or machining activities may be considered hazardous.
Listed on U.S. – California – Proposition 65 – Carcinogens List	**Warning**: Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. California Health and Safety Code Section 25249.6.

Canada

Wood dust (CAS# NA)	
Listed on the Canadian DSL (Domestic Substances List) inventory	
WHMIS Classification	Controlled Product: D2A – Wood dust: IARC Group 1

SECTION 16: OTHER INFORMATION

Disclaimer This document has been prepared based on data considered to be accurate at date of preparation. No warranty is made as to the accuracy or completeness of the foregoing data and safety information. User is responsible to evaluate all available information when using product for any particular use and to comply with all laws and regulations.

Preparation Date: September 8, 2015

Revision Date: N/A

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists
Carc - Carcinogenic
CAS - Chemical Abstract Service
CLP – The Classification, Labelling and Packaging Regulation
DOT - Department of Transportation
EPA = U.S. Environmental Protection Agency

Eye Irrit - Eye Irritation
GHS - Globally Harmonized System
HEPA - High Efficiency Particulate Arresting
IARC - International Agency for Research on Cancer, IARC Group 1 or 2A
LD50 - Lethal Dose, 50% for oral and dermal
LC50 - Lethal Concentration, 50% for inhalation
NA – Not Available
NTP - National Toxicology Program
OSHA – Occupational Safety and Health Administration
PBT - Persistent Bioaccumulative Toxic
PEL – Permissible Exposure Limit
PG - Packing Group
PPE - Personal Protective Equipment
Resp Sens – Respiratory Sensitization
SARA – Superfund Amendments and Reauthorization Act
Skin Irrit - Skin Irritation
Skin Sens – Skin Sensitization
STEL – Short-Term Exposure Limit (15 minutes)
STOT - Specific Target Organ Toxicity
TLV – Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative
WHMIS - (Canada) Workplace Hazardous Materials Information System

PRODUCTS

**Delivering
innovation,
quality & value
with pride.**

Medex

Back to MDF

Medex® represents the highly versatile ideal of SierraPine Sustainable Design Fiberboard (SDF)*. Medex® is a powerful combination of moisture resistance, superior MDF board properties, and a formaldehyde free adhesive system. Medex® has a rock solid track record of superior design capabilities and environmental stewardship around the world.

- Formaldehyde-free adhesive system
- Especially suitable in interior applications where moisture is a concern, Medex does succeed in the 6 cycle accelerated aging test
- Superior physical properties to standard MDF. Truly high performance screwholding and MOR capabilities, among others
- Pre-consumer recycled wood fiber
- FSC® Certified - available option
- Potential LEED® 2009 credit support: MRc4, 5, 7 & IEQc4.4
- Meets CARB ATCM 93120 Phase 2 emission limits - CARB NAF Exempt
- Third party certification - SCS, EPP
- CHPS Compliant - California section 01350 approved
- Developed, manufactured with pride, and first offered in 1989 by our plant in Medford, OR
- Limitations: Medex is not suitable for structural applications, exterior siding or exterior trim

*About Sustainable Design Fiberboard
SDF products include a broad range of high quality MDF products manufactured by SierraPine to meet or exceed the most stringent global emission standards. Applications for SDF include cabinetry, furniture, moldings and millwork.

PDFs available for download:
Spec Sheet | MSDS | Finishing Guidelines for Signs | CARB NAF Exempt

Current SCS Certificates can be requested by contacting SierraPine's Marketing Department

Request Samples /
Literature / Information

800-676-3339

SDF

sustainable design fiberboard

medex®

Features & Benefits
- Formaldehyde-free adhesive system
- Significantly exceeds standard MDF physical properties
- Passes ASTM D1037-96a six-cycle accelerated aging test
- FSC certified panels available upon request

Mill Capabilities
- Panels available in 4' and 5' widths and lengths up to 18' (minimum order may be required for some sizes)
- Thicknesses ranging from 3/8'' - 1+1/4''
- Available in higher densities with a minimum order requirement

Handling & Installation
- Store indoors on a flat, level surface with adequate support to prevent sagging
- Readily accepts and holds hardware including staples, screws, other wood fastening hardware.
- Standard wood product finishing processes apply to Medex®. It can be painted, stained, laminated or veneered.
- For best results, Medex® should be conditioned to the environment 48-72 hours prior to installation.

How to Specify
Industrial Grade Medium Density Fiberboard (MDF), manufactured with a formaldehyde-free adhesive system which surpasses ANSI A208.2 Grade 150 requirements.

Finishing Instructions
Guidelines for commercial signage are available by request from SierraPine.

Limitations
Medex® is not suitable for structural applications, exterior siding or exterior trim.

Ideal Applications
- LEED® Projects
- Countertops
- Window Sills
- Bathroom & Kitchen Cabinets/Woodwork
- Bow & Bay Window Boards
- Display Cases
- Raised Panel Door Inserts

Medex® is a sustainable, moisture resistant, medium density fiberboard (MDF) panel utilizing a formaldehyde-free adhesive system and 100% post-industrial recycled wood fiber. Medex® is engineered for interior high moisture areas in non-structural applications in place of sanded plywood and solid wood. Medex® gives you the versatility of a superior composite panel with the strength and emissions of lumber and other grain wood products. Medex® has been specified in hundreds of commercial, institutional and conservator projects for nearly 20 years.

Technical Data	Imperial	Metric
Density	48 lb/ft^3	769 kg/m^3
Internal Bond	200 lb/in^2	1.38 N/mm^2
Modulus of Rupture	6,000 lb/in^2	41.34 N/mm^2
Modulus of Elasticity	600,000 lb/in^2	4,134 N/mm^2
Modulus of Hardness	1,200 lbs, Janka ball	5,338 N
Screw Holding, Face	350 lbs	1,557 N
Screw Holding, Edge	275 lbs	1,223 N
Thickness Tolerance	$\pm$ 0.005 inch	$\pm$0.127 mm
Thickness Swell	3%	
Linear Expansion	0.30%	
Water Absorption	5%	
Flame Spread Rating	Class C (3)	
Moisture Content	4 - 6%	
Formaldehyde Emissions	as low as 0.01 ppm	

Average physical properties for 3/4'' panel when tested in accordance with ASTM D1037.
Specific design applications and technical data are available upon request.

Potential of 6 LEED® Credits Supported
Materials & Resources: 4.1, 4.2, 5.1, 5.2, 7
Indoor Environmental Quality: 4.4

FSC Certified (Mixed Credit)
Cert no. SCS-COC-001409
© 1996 FSC

SCS Certified
Post-Industrial Recycled Wood Fiber
No-Added Formaldehyde

CHPS Compliant
Meets Materials Specifications for VOC emissions section 01350

EPP Certified
Composite Panel Association
Environmentally Preferable Product

SierraPine
COMPOSITE SOLUTIONS

800-676-3339

3010 Lava Ridge Ct., Suite 220, Roseville, CA 95661
www.sierrapine.com

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Wilsonart® Laminate Basic Types (#107, #335, #350)
Technical Data

Manufacturer
Wilsonart International, Inc.
2400 Wilson Place
P.O. Box 6110
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonartlaminate.com

Product Description

Recommended Uses
Wilsonart® Laminate is suitable for use on fine quality residential and contract furniture, fixtures and casework, and also for architectural application on columns, wainscoting, valances, cornices, interior doors and divider systems.

➢ **General Purpose (HGS) Type 107** is most frequently used for work surfaces on counters, islands, vanities, desks and tables. Typical vertical uses include surfacing for wall panels, teller cages and the front panels of workstations, such as those in hospitals, airports and restaurants. Type 107 is produced for both horizontal and vertical interior applications where the surface must be functional, durable and decorative.

➢ **Vertical Surface (VGP) Type 335** is the usual choice to surface cabinet walls, doors and drawer panels. It often appears on the vertical surfaces of desks, restaurants booths and maitre d' stations, and as architectural cladding. Type 335 is intended for vertical applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface. VGP surfaces may be postformed to achieve radiused edges.

➢ **Postforming (HGP) Type 350** adds the decorative capability of a soft edge to any typical laminate use. Common applications of postforming laminates are formed edges for counters, desktops, cabinet doors and drawer panels. Type 350 is intended for use on vertical and horizontal interior surfaces where it is necessary or desirable to roll the laminate on a simple radius over the edge of the substrate. This eliminates seams and leaves an attractive surface.

Product Composition
Decorative surface papers impregnated with melamine resins are pressed over kraft paper core sheets impregnated with phenolic resin. These sheets are then bonded at pressures greater than 1000 pounds per square inch at temperatures approaching 300°F (149°C). Finished sheets are trimmed, and the backs are sanded to facilitate bonding.

Basic Limitations
Wilsonart® Laminate is for interior use only and is not recommended for direct application to plaster, concrete walls, or gypsum wallboard. It is not structural material and must be bonded to a suitable substrate.

Do not subject Wilsonart® Laminate to extremes in humidity, temperatures higher than 275°F (135°C) for substantial periods of time, or intense, continuous, direct sunlight.

Patterns & Colors
Available in the full range of Wilsonart solid colors, stones, marbles, woodgrains, leathers and patterns. Please see actual sample before specifying.

Finishes – You can confirm finish availability on individual designs by clicking on Pattern Availability

❖ #01 High Gloss - Premium

  A mirror sheen finish, which gives a smooth, brilliant appearance. All Wilsonart Laminate with #01-High Gloss finish also features AEON™ technology and can be used for horizontal applications such as countertops and light-to-medium commercial applications. Excellent for vertical application. #01-High Gloss finish carries a premium upcharge. *Glossometer reading: MD and CD 110 ± 10.*

❖ #07 Textured Gloss - Premium

  A textured finish which reproduces the high sheen of waxed wood furniture. Recommended for horizontal and vertical application. #07 finish features AEON technology and carries a premium upcharge. *Glossometer reading: MD and CD 42 ± 4.*

❖ #18 Linearity - Premium

  A directional texture running the length of the sheet, having a narrow, random, matte-gloss linear quality. It is complementary to linear wood-grains, and linear patterns (such as the "Satin" series), and provides dimension and visual movement to solid colors. #18 finish features AEON technology and carries a premium upcharge. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 18 ± 4*

❖ #38 Fine Velvet Texture

  A smooth textured finish with moderate reflective value. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 14 ± 2*

❖ #52 Quarry - Premium

  Premium finish emulating the "pitted" look of polished natural stone. Recommended for horizontal and vertical application. #52 features AEON technology and carries a premium upcharge. *Glossometer reading: MD 55 ± 5.*

❖ #60 Matte

  Textured finish with a moderate reflective quality. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 10 ± 2.*

❖ #78 FineGrain - Premium

  The FineGrain premium finish features the polish and luxe of a real wood veneer, with a subtle, narrow grain structure that runs the length of the sheet. Recommended for horizontal and vertical application. #78 finish features AEON technology and carries a premium. *Glossometer reading: MD and CD 41 ± 8.*

❖ #90 Crystal - Premium

  A very finely beaded texture that minimizes smudges and finger marks and minimizes the appearance of scratches. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 13 ± 3.*

NOTE: Glossometer readings are made at a 60° angle of incidence. MD refers to the machine direction of a laminate sheet, and CD refers to the cross direction.

Finish Availability: Not all finishes are available in all patterns/colors. Some finish options have limited size availability. Please check with your Wilsonart representative or consult the pattern availability lookup on our website (www.wilsonart.com/design/patternavail) to verify size availability by finish type.

Standard Sheet Widths

36"	48"	60"
914mm	1219mm	1524mm

Standard Sheet Lengths

96"	120"	144"
2438mm	3048mm	3658mm

NOTE: Not all sizes are available from stock; contact your Wilsonart representative for details on local availability. Minimums apply to non-standard designs and finishes in sizes other than 48"x96" and 60"x144". Please check with your Wilsonart representative.

Thickness and Weight

Description	107	335	350
Thickness	0.048" ± 0.005" (1.22mm ± 0.13mm)	0.028" + 0.001 - 0.004" (0.7mm + 0.03 - 0.10mm)	0.039" ± 0.005" (0.99mm ± 0.13mm)
Weight per square foot	0.322#	0.186#	0.260#

Technical Data

Physical Properties of General Purpose Laminates

NEMA Test	Typical Wilsonart Type 107	NEMA Standard HGS
Thickness	**0.048" ± 0.005" (1.22mm ± 0.13mm)**	0.048" ± 0.005" (1.2mm ± 0.13mm)
Appearance	**No ABC def.**	No ABC def.
Light Resistance	**Slight effect**	Slight effect
Cleanability (cycles)	**10**	20 (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	**No effect** **Slight effect**	No effect Moderate effect
Boiling Water Resistance	**No effect**	No effect
High Temperature Resistance	**Slight effect**	Slight effect
Impact Resistance	**65" (1651mm)**	50" (1270mm)
Radiant Heat Resistance	**160 seconds**	125 sec. (min.)
Dimensional Stability Machine Direction Cross Direction	**0.3%** **0.7%**	0.5% 0.9%
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	400 (min.)
Formability	**Not applicable**	Not applicable
Blistering	**Not applicable**	Not applicable

Physical Properties of Vertical Surface Laminates

NEMA Test	Typical Wilsonart Type 335	NEMA Standard VGS	NEMA Standard VGP
Thickness	**0.028" + 0.001 - 0.004" (0.7mm + 0.03 - 0.10mm)**	0.028" ± 0.004" (0.7mm ± 0.10mm)	0.028" ± 0.004" (0.7mm ± 0.10mm)
Appearance	**No ABC def.**	No ABC def.	No ABC def.
Light Resistance	**Slight effect**	Slight effect	Slight effect
Cleanability (cycles)	**10**	20 (max.)	20 (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	**No effect** **Slight effect**	No effect Moderate effect	No effect Moderate effect
Boiling Water Resistance	**No effect**	No effect	Slight effect
High Temperature Resistance	**Slight effect**	Slight effect	Slight effect
Impact Resistance	**40" (1016mm)**	20" (508mm)	20" (508mm)
Radiant Heat Resistance	**120 seconds**	80 sec. (min.)	80 sec. (min.)

3

Dimensional Stability			
Machine Direction	**0.5%**	0.7% (max.)	1.1% (max.)
Cross Direction	**0.8%**	1.2% (max.)	1.4% (max.)
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	400 (min.)	400 (min.)
Formability	**7/16" radius (11mm)**	Not applicable	1/2" radius (13mm)
Blistering	**45 seconds**	Not applicable	40 seconds

*Radius for face is actually the radius of the form around which the laminate is postformed. The radius for back is actually the radius to which the decorative face is postformed.

Physical Properties of Postforming Laminate

NEMA Test	Typical Wilsonart Type 350	NEMA Standard HGP
Thickness	**0.039" $\pm$ 0.005" (0.99mm $\pm$ 0.13mm)**	0.039" $\pm$ 0.005" (1mm $\pm$ 0.12mm)
Appearance	**No ABC def.**	No ABC def.
Light Resistance	**Slight effect**	Slight effect
Cleanability (cycles)	**10**	20 (max.)
Stain Resistance Reagents 1-10	**No effect**	No effect
Reagents 11-15	**Slight effect**	Moderate effect
Boiling Water Resistance	**No effect**	Slight effect
High Temperature Resistance	**Slight effect**	Slight effect
Impact Resistance	**55" (1397mm)**	30" (762mm) (min.)
Radiant Heat Resistance	**140 seconds**	100 sec. (min.)
Dimensional Stability Machine Direction	**0.5%**	1.1% (max.)
Cross Direction	**0.8%**	1.4% (max.)
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	400 (min.)
Formability*	***9/16" face (14.28mm) *3/16" back (4.76mm)**	*5/8" face (16.00mm)
Blistering	**70 seconds**	55 seconds

*Radius for face is actually the radius of the form around which the laminate is postformed. The radius for back is actually the radius to which the decorative face is postformed.

Typical Fire Test Data
High-pressure laminates are subject to Flame Spread and Smoke Developed standards in structures where codes establish such conditions.

Test data to determine compliance with these codes are obtained by the Steiner Tunnel Test method of the American Society for Testing Materials (ASTM-E-84, Standard Test Method for Surface Burning Characteristics of Building Materials). Tests were conducted in accordance with test method and mounting procedure as described in paragraph X1.7.2 of the test method. This procedure is cataloged by Underwriters Laboratories, Inc. as UL 723.

Here is typical data for Wilsonart laminates, averaged from two specific tests:

Typical Flame Spread and Smoke Developed Properties

Product Type	Test Condition	Flame Spread	Smoke Developed
General Purpose Type 107	Unbonded	50	45
Vertical Surface Type 335	Unbonded	45	40

Postforming Type 350	Unbonded	60	35
General Purpose Type 107	Bonded with contact adhesive to particleboard substrate; 3/8"	40	100
Vertical Surface Type 335	Bonded with contact adhesive to particleboard substrate; 3/8"	40	155
Product Type	Test Condition	Flame Spread	Smoke Developed
Postforming Type 350	Bonded with contact adhesive to particleboard substrate; 3/8"	50	140

When you wish to specify decorative laminate for a Class I or A fire rating, please refer to the Fire-Rated Laminate Tech Data.

Model Code Designations used to determine flame spread classification

Flame Spread Classification (Max. Rating)		International (IBC)		Life Safety (NFPA 101)
25		A		A
75		B		B
200		C		C

(RE: Architectural Woodwork Quality Standard, 8th Edition, Version 1.0, - 2003)

All Model Codes regulate the generation of smoke by interior finish material. In all cases they specify a maximum smoke development rating of 450.

Codes and Certifications

General Standards
Wilsonart laminates conform to the voluntary standards of the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD3-2005, for thickness, performance properties and appearance. Various grades of Wilsonart laminates meet or exceed the International Standards Organization specifications as found in ISO 4586, titled "High-Pressure Decorative Laminate (HPDL) – Sheets Based on Thermosetting Resins – Part I: specifications."

The GREENGUARD Environmental Institute™ has awarded its GREENGUARD Indoor Air Quality Certification to Wilsonart Laminate. All Wilsonart Laminate product types were tested under the stringent GREENGUARD Standards for low-emitting products. All GREENGUARD Indoor Air Quality Certified® products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Specific Product Standards
U.S. Federal Specification L-P 508H, April 9, 1977, "Plastic Sheets, Laminated, Decorative and Nondecorative." Spells out criteria for decorative laminates for federal installations. Wilsonart 107, 335 and 350 laminates comply.

NSF International (NSF) #35, "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types 107, 335 and 350, comply.

U.S. Federal Register, August 9, 1984, Housing and Urban Development Mobile Home Construction and Safety Standard, (24CFR) 3280.203. General Purpose Type 107 and Vertical Surface Type 335 comply.

U.S. Federal Test Method, Federal Aviation Regulation, DOT, Part 25.853, Airworthiness Standards: Transport Category Airplane (Interior Finish). Vertical Surface Type 335 and Postforming Type 350 comply with parts a and c.

U.S. Federal Motor Vehicle Safety Standard (FMVSS) 302, "Flammability of Interior Materials." Basic Types 107, 335 and 350 comply.

U.S. Military Standard MIL-P-17171E (SHIPS)/Plastic Laminate. General Purpose Type 107 complies.

Installation: Fabrication and Assembly Recommendations

Fabrication should follow approved methods. Assembled pieces should meet the specifications of KCMA (Kitchen Cabinetmakers Manufacturers Association), ANSI A-161.2-1998 (revised), and "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable.

Wilsonart laminates must be bonded to a substrate of reliable quality, such as particleboard, medium density fiberboard or plywood with one A face. High-pressure laminate, plaster, concrete and gypsum board should not be considered suitable substrates. Basic Types laminate may not be used as structural members.

Bond with adhesives and follow the techniques recommended by the adhesive manufacturer. Recommended adhesives are permanent types, such as urea and polyvinyl acetate (PVA), and contact types. Wilsonart adhesives are recommended for most bonding conditions.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.175mm) radius and all edges should be routed smooth.

Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate.

Take care to ensure an appropriate acclimation between the laminate and the substrate prior to fabrication. The face and backing laminates and the substrate should be conditioned in the same environment for 48 hours before fabrication.

Recommended conditioning temperature is about 75°F (24°C). Laminates should be conditioned at 45% to 55% relative humidity.

With postforming machinery, Wilsonart 335 and 350 will postform at a nominal sheet temperature range of 325°F to 338°F (163°C to 170°C) in 20 ± 5 seconds.

Carbide-tipped saw and router blades should be used for cutting. High tool speed and low feed speed are advisable. Cutting blades should be kept sharp. Use a hold-down to prevent any vibration.

Warranty
Wilsonart International, Inc. ("Wilsonart") warrants to the original consumer purchaser for one (1) year after date of purchase ("Warranty Period") that, under normal use and service, Wilsonart® Laminate Sheets are free from manufacturing defects and conform to published specifications. This warranty applies only to a Wilsonart Laminate Sheet which has been installed in an interior application and remains installed at that location ("Warranted Product") and is extended only to, and may be enforced only by, the original consumer purchaser. THIS WARRANTY IS NOT TRANSFERABLE. This warranty is expressly conditioned upon submission of proof of date of purchase.

WHAT IS EXCLUDED:

This warranty shall not apply to damage arising from any of the following:

1. Accidents, abuse or misuse;
2. Exposure to extreme temperature;
3. Improper fabrication or installation; or
4. Improper maintenance or repair.

WHAT WILSONART WILL DO IF YOUR CLAIM IS COVERED BY THIS WARRANTY
Wilsonart will provide, at no cost and with delivery prepaid, a Wilsonart® Laminate Sheet to replace the Warranted Product. Wilsonart will not pay for removal of the Warranted Product or for fabrication or installation of the replacement laminate or any other costs. No replacement under the warranty shall extend the Warranty Period.
Any replacement is limited to colors and styles of Wilsonart® Laminate Sheets available at the time of replacement. Exact color matches may not be possible. If the original color or style is no longer available, Wilsonart has the right to substitute another Wilsonart Laminate Sheet of equal or greater value than the Warranted Product.

WHAT YOU NEED TO DO
To make a claim under this warranty, you must contact the Wilsonart Warranty Center at the address listed below before the end of the Warranty Period. You must provide proof of date of purchase, photographs of the Warranted Product and access for inspection for warranty determination by a Wilsonart representative, and thereafter Wilsonart will provide you a determination on your claim.

> Wilsonart Warranty
> Center
> 2400 Wilson Place
> Temple, Texas 76504
> 877-537-0533... Toll Free

THE FOREGOING SHALL CONSTITUTE THE EXCLUSIVE REMEDY OF THE PURCHASER AND THE EXCLUSIVE LIABILITY OF WILSONART.
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The invalidity of all or a part of any of the provisions of the Limited Warranty shall not affect or invalidate any other provision of the Limited Warranty.

For further assistance or questions, contact Wilsonart at the address or telephone number listed above or at www.wilsonart.com.

Maintenance*

The decorative surface may be cleaned with warm water and mild soaps, such as those used for hands or dishes. Do not use cleansers that contain abrasives, acids or alkalis; they will damage the decorative surface. Remove stubborn stains with a 2-minute exposure to hypochlorite bleach such as Clorox®, followed by a clean water rinse.

We recommend that you **not** allow any of the following agents to **remain** in contact with the decorative surface:

1. Hypochlorite bleach, except as described above
2. Hydrogen peroxide solution
3. Mineral acids, hydrochloric acid such as Lime-A-Way™, sulfuric or nitric acid
4. Caustic solutions containing greater than 2% lye, such as Drano®
5. Sodium bisulfate, such as Sani-Flush®
6. Potassium permanganate
7. Berry juices
8. Silver nitrate, in 1% concentration or greater
9. Gentian violet
10. Mild silver protein, such as 20% argyrol
11. Bluing
12. Fabric dye, such as Tintex® or Rit®
13. Alcohol containing 1% iodine in solution

If you require a decorative laminate that can withstand these and other chemicals, please refer to the Tech Data for Wilsonart® Chemsurf® Chemical-Resistant Laminates.

Free copies of the "Care and Maintenance Guide," which covers all Wilsonart products, are available. The guide can be accessed at http://www.wilsonartlaminate.com or by calling our hotline at 800-433-3222. It can be used for your own information, for project manuals, and for provision to clients and contractors involved with interior construction and finishing.

Not applicable for Phenolic Laminate Backing Sheet.

Technical Services

For samples, literature, questions or technical assistance, please contact our toll-free Hotline at (800) 433-3222, Monday through Friday, 7 am – 7 pm, CST.

Specification Form:
Surface shall be Wilsonart® Laminate,
produced by Wilsonart International, Inc.,
Temple, Texas 76503-6110

Type: Specify 107, 335 or 350

Surface
        Color Number: _____
        Color Name: _____

Finish
        Number: _____
        Name: _____

Edge Trim
        Color Number: _____
        Color Name: _____

Adhesive
        Name: _____
        Grade/Type: _____
        Brand: Wilsonart Adhesive

Basic Types TD (TD2200)
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