

TECHNICAL DATA SHEET



End-Draft® E-84 Class 1 Two-Component Polyurethane Foam

End-Draft® E-84 Class 1 is a multi-purpose, low pressure two-component polyurethane foam designed within the international guidelines for protection of the ozone layer. With respect to the Montreal Protocol of 1987 and other environmental guidelines, it utilizes a non-flammable, non-ozone depleting blowing agent to assist in the safety of the end user and the environment. E-84 Class 1 systems have been specifically formulated for flame retardancy, and conform to the requirements of ASTM E-84 as a "Class 1" system (flame spread of 25 or less, smoke development of 450 or less). The pre-pressurized, two-component froth systems are dispensed through a state-of-the-art, two-component froth dispensing gun assembly unit, providing unsurpassed quality and flexibility in end-use performance.

Application Areas

Foam can be sprayed onto any clean, dry surface in any direction to insulate, fill and seal various size voids, deaden sound or reduce vibration. It is specifically designed to spray onto flat or irregular surfaces and to fill large cavities where flame retardant requirements specify E-84 Class 1 foam.

Properties

End-Draft two-component froth foam systems will expand immediately upon chemical reaction of A component and B component to a final volume that is 3 to 5 times the dispensed volume, in typical applications, depending on various factors such as cavity size and ambient conditions. The foam will cure to a semi-rigid closed cell foam upon reaction of the A component (a polymeric isocyanate) and B component (a polyol blend containing certain additives). End-Draft E-84 Class 1 fully expands and dries tack-free within 30-60 seconds; it can be cut back or trimmed in 2-5 minutes and fully cures within 1 hour. End-Draft E-84 Class 1 adheres to almost all building materials with the exception of surfaces such as polyethylene, polypropylene, Teflon®, silicone, oils and greases, mold release agents and similar materials. Optimum application temperature is 75°F - 85°F (24-29°C) but may be sprayed onto colder or warmer substrates, with slight effects on the foam characteristics. Cured foam is resistant to heat and cold, -200°F to +240°F (-129°C to 116°C), and to aging, but not UV rays (i.e. sunlight) unless painted, covered or coated. Cured PU foam is chemically inert and non-reactive in approved applications, and will not harm electrical wire insulations, Romex®, rubber, PVC, polyethylene (i.e. PEX) or other plastic. It is approved for use around wires, plumbing penetrations, etc., and contains no formaldehyde. End-Draft E-84 Class 1 systems require no outside mechanical or electrical power source. When sprayed, the foam will create a seamless, continuous seal to insulate and protect against dust, air infiltration and pests.

Preparation for Use

Substrate must be clean, dry, firm, free of loose particles and free of dust, grease and mold release agents. Protect surfaces not to be foamed. Shake kits well before using.

Application / Use

End-Draft is ready to use after previous paragraph set-up instructions are followed. Attach appropriately marked hose to tanks A and B if needed. Open tank valves as directed. Materials are dispensed through the hoses and mixed in the disposable nozzle attached to the two-component froth dispensing unit. Dispense foam by squeezing the trigger of the unit after attaching a nozzle to the two-component dispensing unit. Release the trigger to interrupt or stop the foaming process. Once foaming process has stopped, the dispensing unit must be **reactivated within 30 seconds** or a new nozzle **must** be installed. Fresh foam may be applied in several stages to reduce overfilling of void or damage to non-rigid, confined cavities. Uncured foam can be removed with foam cleaner. Cured foam can only be removed mechanically.

Important Note: Use only in well-ventilated area or with certified respiratory protection. Wear impervious gloves, protective eyewear and suitable work clothes when using. Read all instructions and safety



information (MSDS) prior to use of any product. The product contains no formaldehyde. Cured foam is nontoxic.

KEEP OUT OF REACH OF CHILDREN.

Product Storage

Store in a cool dry area. Do not expose to open flame or temperatures above 100°F (38°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. End-Draft E-84 Class 1 is reusable within 30 days by following product instructions.

Note: During colder months it may take up to a week or more to warm the chemicals to optimum temperature. Construction of a temperature controlled "hot box" is recommended for all applications in order to store the refill systems at a consistent, controlled temperature prior to and during use.

E-84 Class 1 Two-Component Polyurethane Foam

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TECHNICAL DATA

End-Draft® E-84 Class 1 (Metric data shown in parentheses)

DENSITY

ASTM D-1622 Free Rise 1.75 lb/ft³ (28 kg/m³)
ASTM D-1622 In-place density 2.12 lb/ft³ (34 kg/m³)

K-FACTOR

ASTM C-518 – initial 0.139 BTU·inch / ft²·h·°F
ASTM C-518 – aged 90 days at 140°F (60°C) 0.166 BTU·inch / ft²·h·°F

R-VALUE

Initial 7.2 / inch
Aged 90 days at 140°F (60°C) 6.0 / inch

AIR BARRIER PROPERTIES

ASTM E-283
Tested at 1" thickness @ 1.57 psf (75 Pa) <0.003 cfm/ft² (<0.02 L/s/m²)

PERM RATING

ASTM E-96-Method A
1" (2.54 cm) 1.67 (100 ng/(m²·Pa·s)) – Class III Vapor Retarder
2" (5.04 cm) 1.44 (82 ng/(m²·Pa·s)) – Class III Vapor Retarder
3" (7.62 cm) 1.00 (57 ng/(m²·Pa·s)) – Class III Vapor Retarder

TENSILE STRENGTH

ASTM D-1623 – Type C
OSB 20 lbf/in² (137 kPa)
CMU 25 lbf/in² (172 kPa)
Steel 22 lbf/in² (152 kPa)

AIR PERMEANCE

ASTM E2178 .02L/(m²·s)

COMPRESSIVE STRENGTH

ASTM D-1621
Parallel @ 10% 26 lbf/in² (182 kPa)
Perpendicular @ 10% 16 lbf/in² (110 kPa)

DIMENSIONAL STABILITY

ASTM D-2126
HEAT AGE: +158°F (70°C) -0.6%
HUMID AGE: +158°F (70°C), 100% RH +2.9%
COLD AGE: -4°F (-20°C) -0.3%

CLOSED CELL CONTENT

ASTM D-2856 95%

TACK-FREE /

EXPANSION TIME 30 - 60 seconds

CUTTABLE

FULLY CURED 2-5 minutes
1 hour

WATER ABSORPTION

ASTM D2842 2.9%

FUNGI RESISTANCE

ASTM G21 No Growth

FIRE RATING

ASTM E-84/UL 723
Tested at 2" thickness (full coverage) Flame Spread Index = 30
CAN/ULC S102 Smoke Developed = 400
Tested at 2" beads Flame Spread Index = 9
FMVSS 302/CMVSS 302 Smoke Developed = 43
Meets burn rate 0/00 in/min

APPROVALS/STANDARDS

End-Draft® E-84 Class 1 was tested in accordance with NFPA 286 for use in roof/wall junctions and attic/wall penetrations at 2" thickness x 6" width with unlimited length without a thermal barrier. This testing also allows for the foam to be used in duct joint sealing applications in residential construction without an ignition barrier. It can also be used in attic & crawlspace applications when certain qualifying conditions are met.

Contains a non-flammable HFC propellant.

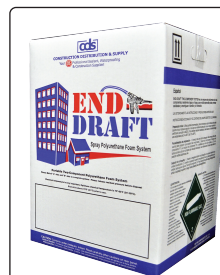
THEORETICAL YIELD*

50 ft³ (1.42 m³) or 605 board feet (56.2 m²)

* Yields are based on theoretical calculations, for comparative purposes, and will vary depending on ambient conditions and particular application.



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Always read all operating, application and safety instructions before using any products. Use in conformance with all local, state, provincial and federal regulations and safety requirements. Failure to strictly adhere to any recommended procedures and reasonable safety precautions shall release Construction Distribution & Supply Co. Inc. of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call Construction Distribution & Supply Co. Inc. at 1 800 237-5565.

NOTE: Physical properties shown are typical and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions and may vary upon use, temperature and ambient conditions. Right to change physical properties as a result of technical progress is reserved. This information supersedes all previously published data. Yields shown are based on theoretical calculations and will vary depending on ambient conditions and particular application. Read all product directions and safety information before use. Consult local building codes for specific requirements regarding the use of cellular plastics or urethane products in construction.

WARNINGS: Follow safety precautions and wear protective equipment as recommended. Consult Material Safety Data Sheet (MSDS) for specific information. Prolonged inhalation exposure may cause respiratory irritation/sensitization and/or reduce pulmonary function in susceptible individuals. Onset may be delayed. Pre-existing respiratory conditions may be aggravated. Use only with adequate ventilation or certified respiratory protection. NIOSH approved positive pressure supplied air respirator is recommended if exposure guidelines may be exceeded. Contents may be very sticky and irritating to skin and eyes, therefore wear protective eyewear, impervious gloves, and suitable work clothing when operating. If liquid chemical comes in contact with skin, first wipe thoroughly with dry cloth, then rinse affected area with water. Wash with soap and water afterwards, and apply hand lotion if desired. If liquid comes in contact with eyes, immediately flush with large volume of clean water for at least 15 minutes and get medical help at once. If liquid is swallowed, get immediate medical attention. Products manufactured or produced from these chemicals are organic and, therefore, combustible. Each user of any product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage.

KEEP OUT OF REACH OF CHILDREN.

LIMITED WARRANTY: The Manufacturer warrants only that the product shall meet its specifications: THIS WARRANTY IS IN LIEU OF ALL WRITTEN OR UNWRITTEN, EXPRESSED OR IMPLIED WARRANTIES AND THE MANUFACTURER EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. The buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the replacement of the material. Failure to strictly adhere to any recommended procedures shall release The Manufacturer of all liability with respect to the materials or the use thereof. User of this product must determine suitability for any particular purpose, including, but not limited to, structural requirements, performance specifications and application requirements prior to installation and after product is applied.

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