



RULON INTERNATIONAL

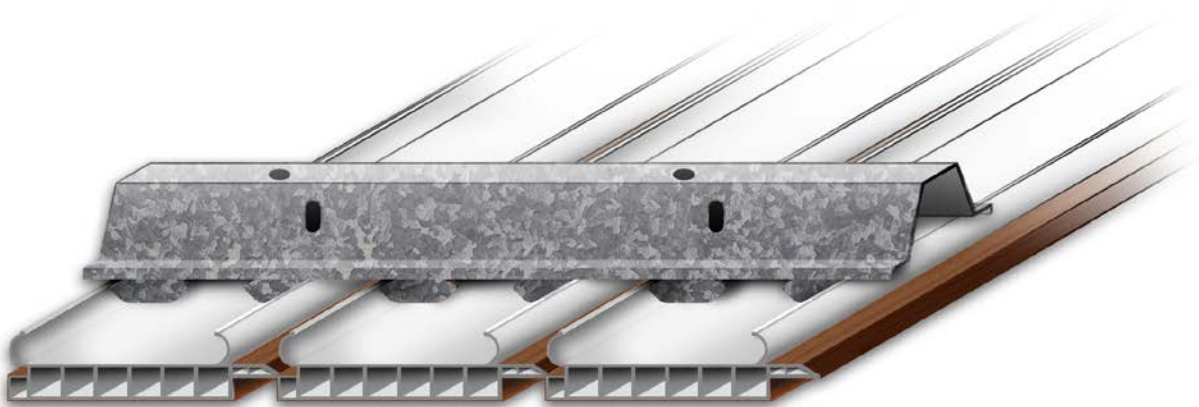
ENDURE DATA SHEET

SYSTEM: ENDURE

PROFILE: WOODGRAIN



Overview



SYSTEM

Rulon's Endure Woodgrain suspended linear canopy ceiling system is designed for ceilings and canopy systems in harsh environments as well as for modern interior applications. Endure Woodgrain performs well in indoor swimming pools, water treatment plants, exterior store canopies and many other applications. Endure Woodgrain offers a clean, smooth, modern appearance with rugged durability. It has been proven tough enough to survive hurricane conditions where other ceilings have failed.



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Technical Data

VARIABLES



ENGINEERING CONSIDERATIONS

Endure is manufactured by the extrusion of engineered polymer. All shop drawings and coordination details are produced by Rulon's engineering staff.



ACCESSIBILITY

Endure Woodgrain is a fully-accessible. The Rulon standard suspension carriers are manufactured from 0.7 mm thick galvanized steel. Panels can be attached and removed from the suspension carriers easily.



ACOUSTICS

Endure Woodgrain is manufactured with or without spacers, allowing sound to pass through the space between panels to the plenum space beyond. Endure Woodgrain is acoustically transparent.



SUSTAINABILITY

Endure Woodgrain may contribute as required to the following LEED v4 credits: **MR BPD&O – Sourcing of Raw Materials**, **MR BPD&O – Material Ingredients**, **EQ Low-Emitting Materials**, **EQ Minimum Acoustic Performance**



FIRE PERFORMANCE

Endure Woodgrain has been tested and meets **Class A** requirements as per ASTM E-84. Engineered polymer and steel components require no additional fire treatment.



SEISMIC

Endure Woodgrain meets seismic code compliance via direct screw attachment to suspension carriers. Local code requirements should be consulted in order to determine additional requirements.



INTEGRATIONS

Endure Woodgrain can be easily trimmed in-field to accommodate MEP integrations. Touch-up finish is supplied to seal cut sections. In-factory cutouts can be achieved with dedicated coordination and in conjunction with the **Integrated Lighting^D** program at Rulon.



GENERAL COSTING

Endure Woodgrain is typically a reasonably priced system depending on the material and manufacturing requirements. Endure Woodgrain qualifies as **\$\$\$\$** on the general costing scale. Local reps should be contacted in order to obtain a project-specific budget.



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Specification

COMPONENTS

HANGERS

#12- gauge wire hangers (contractor-supplied).

SUSPENSION

Rulon standard suspension carriers are manufactured from 0.7 mm thick galvanized steel. For swimming pool areas and other corrosive environments, a specially-coated Rulon carrier is available to prevent deterioration of the suspension system.

MODULES

Endure Woodgrain ceiling strip profiles are formed by the extrusion of engineered polymer. Endure Woodgrain strip profiles are twin-walled to provide added structural strength, and to enhance thermal insulation.

- #800 Series Engineered Polymer Strips: The ceiling pans are 3-1/4" [83 mm] wide, and placed into a design module of 4" [102 mm] with square sides (see drawing P8000001). The spaces between the strips may be left open, or filled with compatible Engineered Polymer spacers.
- #900 Series Engineered Polymer Strips: The ceiling pans are 3-1/4" [83 mm] wide with an integral 3/4" [19 mm] spacer and placed into a design module of 4" [102 mm] with square sides (see drawing P9000001).

PERIMETER TRIMS

Ceiling termination at a wall or soffit is accomplished using Rulon perimeter trim #870 (see drawing P9000002).

MATERIAL CHARACTERISTICS

DENSITY

96.8 lbs/cu.ft.

YIELD STRESS & TENSILE STRENGTH

6,525 psi (Yield stress is the tension at which the Endure Woodgrain strips will no longer return to their original shape). 6,525 psi (Tensile strength is the tension at which the Endure Woodgrain strips break.)

MODULUS OF ELASTICITY

464,000 psi (MOE is the value used to determine the behavior of Endure Woodgrain strips under various load conditions).

VICAT SOFTENING POINT

82C = 180F (Temperature at which Endure Woodgrain strips become pliable for bending)

CHEMICAL RESISTANCE

Endure Woodgrain has excellent resistance to many chemicals making it is suitable for a wide range of harsh environment applications. Additional information is available upon request.



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THERMAL RESISTANCE

Endure Woodgrain has excellent thermal insulation characteristics compared to metal and other ceiling materials. It resists the formation of condensation and retards heat. The following is a list of specific thermal characteristics:

- *Usable Temperature Range*
 - Maximum Allowable Temperature = 72°C = 162°F
 - Minimum Allowable Temperature = -50°C = -58°F
- *Insulating Properties*
 - Coefficient of Thermal Conductivity = 0.17W / °C × m
 - Similar in value to Oak of the same thickness
- *Expansion & Contraction*
 - Coefficient of Linear Expansion = $55 \pm 5 \times 10^{-6}$ / °C
 - For every +10°F, an 18' piece of Endure Woodgrain will expand by .066" [2 mm] (approx. 1/16")

IMPACT RESISTANCE

Endure Woodgrain is naturally resistant to denting or marking from impacts. It is recommended that carrier spans be reduced to provide added stiffness to ceilings where regular impacts are likely. Similarly, where exterior conditions allow substantial wind loads to occur, carrier spans should be reduced.

COLOR

COLOR

Endure Woodgrain is available in a variety of standard wood finishes including White Maple, Red Maple, Light Cherry, Dark Cherry, Walnut, Oak, Beech, and Amber Bamboo. Premium and custom colors are available. Endure Woodgrain colors are very stable for interior use, and will exhibit insignificant change or fading with time. It is recommended that for exterior use, or where substantial amounts of ultraviolet light are present, that the choice of deep-tone colors be restricted.

SHIPPING & STORAGE

SHIPPING

Endure Woodgrain is shipped wrapped in shrink wrap packaging, with no more than two (2) Endure Woodgrain per bundle. Panel Grille backs are placed together to prevent marring of faces.

STORAGE

Endure Woodgrain shall be stored flat and level, in a fully enclosed space. For a minimum of seventy-two (72) hours immediately prior to ceiling installation, the packaging shall be opened and the wood blades shall be stored in the room in which they will be installed. The temperature and humidity of the room shall closely approximate those conditions that will exist when the building is occupied. Endure Woodgrain must be stored off the floor.



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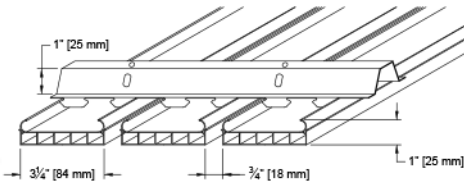
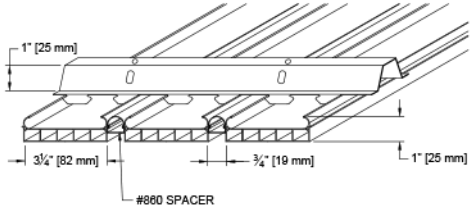
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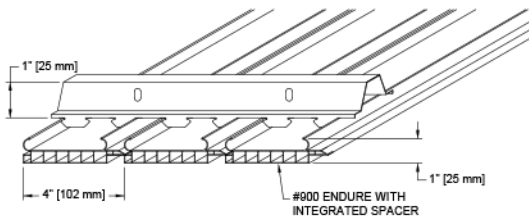
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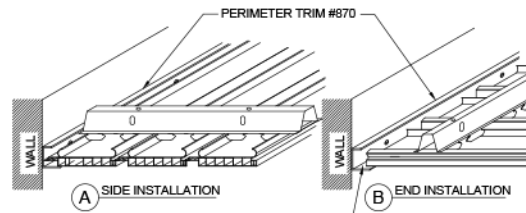
Typical Details



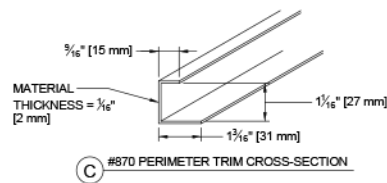
800 PROFILE



900 PROFILE



NOTE:
ALLOW SUFFICIENT SPACE FOR EXPANSION
AT PERIMETER. SEE INSTALLATION GUIDE
FOR MORE INFORMATION



PERIMETER CONDITIONS



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Notes

^A Not used.

^B Not used.

^C Not used.

^D The Integrated Lighting program at Rulon is in partnership with GE Lighting and is an effort to coordinate MEPs more effectively and provide for a more streamlined process of integration. In practice, this effort begins with factory cutouts to accommodate light fixtures.

^E Not used.

^F Not used.

^G Not used.

^H Not used.

^I Not used.

^J Not used.

^K Not used.

^L Not used.