RULON INTERNATIONAL

ENDURE DATA SHEET

SYSTEM: ENDURE | PROFILE: SOLID

Overview

SYSTEM

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

RULON INTERNATIONAL

ENDURE DATA SHEET

SYSTEM: ENDURE | PROFILE: SOLID

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

SUSTAINABILITY

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

RULON INTERNATIONAL

ENDURE DATA SHEET

SYSTEM: ENDURE | PROFILE: SOLID

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 ceiling strip profiles are formed by the extrusion of engineered polymer. Endure 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.
- #850 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 rounded sides (see drawing P8500001). 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 ¾" [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 strips will no longer return to their original shape).
6,525 psi (Tensile strength is the tension at which the Endure strips break.)

MODULUS OF ELASTICITY

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

VICAT SOFTENING POINT

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

CHEMICAL RESISTANCE

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

THERMAL RESISTANCE

Endure 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±5 × 10-6 / °C
  - For every +10°F, an 18' piece of Endure will expand by .066" [2 mm] (approx. 1/16")

IMPACT RESISTANCE

Endure 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 for additional strength.

COLOR

COLOR

Endure is available in a variety of standard colors including white, sand, beige, light grey and medium grey. Premium and custom colors are available. Endure 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 is shipped wrapped in shrink wrap packaging, with no more than two (2) Endure per bundle. Panel Grille backs are placed together to prevent marring of faces.

STORAGE

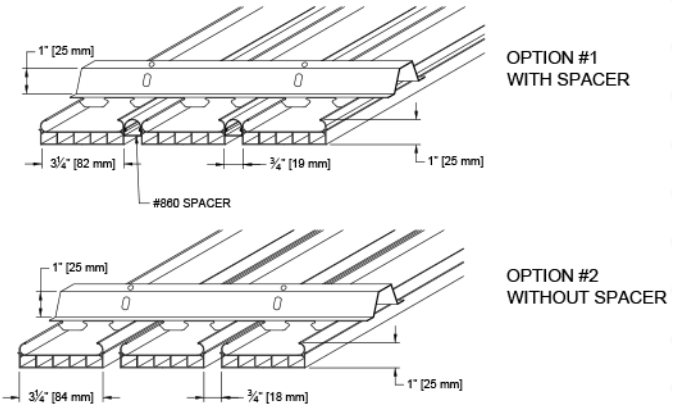
Endure shall be stored flat and level, in a fully enclosed space. For a minimum of seventy-two (72) hours immediately prior to ceiling installation, the packaging shall be opened and the wood blades shall be stored in the room in which they will be installed. The temperature and humidity of the room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

RULON INTERNATIONAL

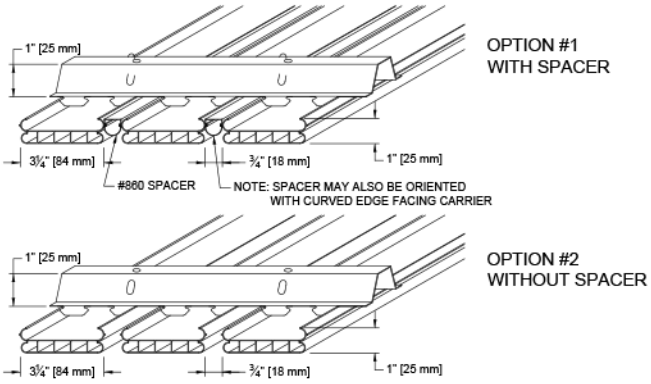
ENDURE DATA SHEET

SYSTEM: ENDURE | PROFILE: SOLID

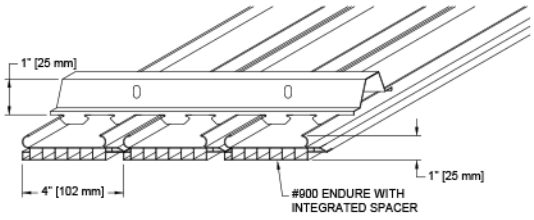
Typical Details



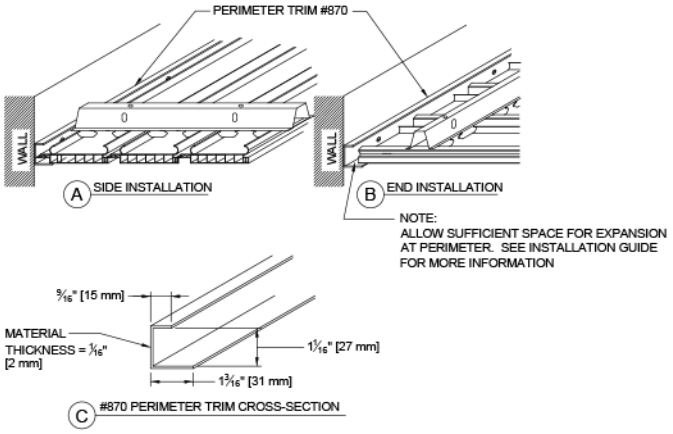
800 PROFILE



850 PROFILE



900 PROFILE



PERIMETER CONDITIONS

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.