

LINEA TENOR PANEL

Tenor Panel is a self-encapsulated, sound absorbing acoustic panel for walls and ceilings that achieves very high acoustic performance without the need for additional acoustic materials behind or above. Sound is funneled through the machined face and absorbed by the internal acoustic core. Tenor Panel comes in three standard thicknesses and in a wide variety of real wood or engineered wood veneers, stains or custom finishes. Several perforation patterns can be machined into the Tenor Panel face depending on the appearance and performance requirements intended by the design consultants. Tenor panels can be installed independently using a variety of hardware options.

SPECIFICATION—*example*

Type:	Linea Tenor Panel
Face Veneer:	Select from Custom Veneer Options
Back Profile:	Perforated or Non Perforated
Edge Profile:	Square—Matching Veneer
Acoustic Core:	Varies up to 3/4", 1" and 2"
Panel Size:	Up to 4' x 6'
Face:	Select from range of LINEA Perforation Options
Finish:	Natural Clear, Custom Stained or Tinted Clear Finishes in Matte, Satin or Semi-Gloss Sheen
Fabric Backer:	Black SoundTex®
Fire Rating:	Class A per ASTM E-84 (USA) and CAN/ULC-S102 (Canada)



Linea Tenor Panel

FEATURES | BENEFITS

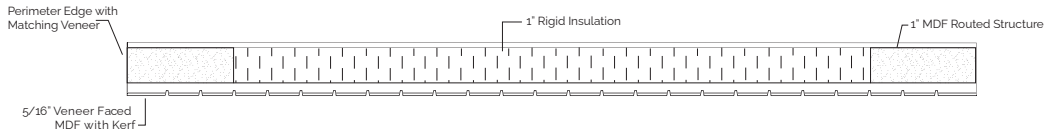
- Comes in a wide variety of real wood and engineered wood veneers.
- Creates a continuous ceiling or ceiling cloud
- SoundTex® acoustical fabric improves sound absorption
- Easily installed with Torsion Spring, Aluminum Z-Clips/ Bar, channel hanger or other hardware options
- Class A Fire Rated per ASTM E-84 (USA) and CAN/ULC S102 (Canada) is standard.
- FSC Certified and other responsibly harvested wood options.
- High recycled content MDF of Particleboard composite core with No Added Urea Formaldehyde (NAUF)
- Designed for seismic and non-seismic areas
- Available with LINEA Textured Face



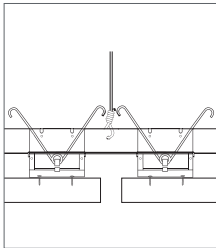
LINEA TENOR PANEL

PRODUCT DATA SHEET

Section Detail

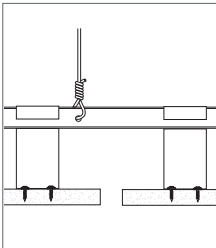


CEILING INSTALLATION TYPES



TORSION SPRING

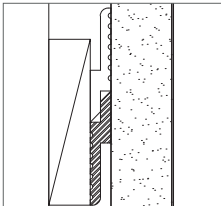
The Panel is designed for downward accessibility by way of torsion spring clips fixed to 15/16" [24mm] HeavyDuty grid Panels greater than 2' x 2' may require additional stabilizing support fixed to the back (by others).



CHANNEL HANGER

Designed to simply lift, drop and lock in place using C-Channel suspension and clips. Panels greater than 2' x 2' may require additional stabilizing support fixed to the back (by others).

WALL INSTALLATION TYPE



Z-CLIP

Panels are hung on furring strips with low profile aluminium clips similar to a French cleat.

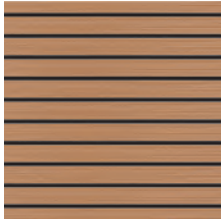


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Kerf Patterns



KF 8.
 Kerf — 8mm
 NRC Range
 (E-400) — 0.95

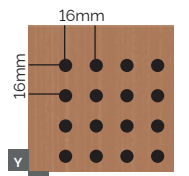
KF 16.
 Kerf — 16mm
 NRC Range
 (E-400) — 0.85

KF 24.
 Kerf — 24mm
 NRC Range
 (E-400) — 0.75

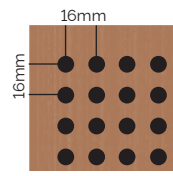
KF 32.
 Kerf — 32mm
 NRC Range
 (E-400) — 0.65



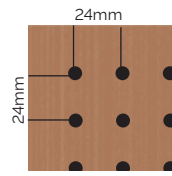
Parallel Patterns



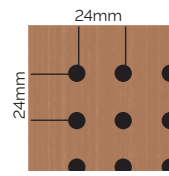
PL 1.
 Hole Ø — 6mm
 Spacing — Y 16mm
 — X 16mm
 Open % — 10%
 NRC Range
 (E-400) — 0.55



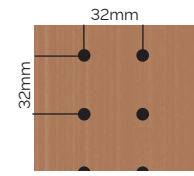
PL 2.
 Hole Ø — 8mm
 Spacing — Y 16mm
 — X 16mm
 Open % — 18%
 NRC Range
 (E-400) — 0.75



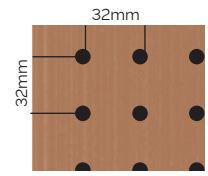
PL 3.
 Hole Ø — 6mm
 Spacing — Y 24mm
 — X 24mm
 Open % — 5%
 NRC Range
 (E-400) — 0.40



PL 4.
 Hole Ø — 8mm
 Spacing — Y 24mm
 — X 24mm
 Open % — 8%
 NRC Range
 (E-400) — 0.50



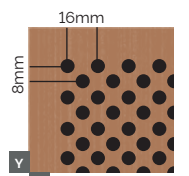
PL 5.
 Hole Ø — 6mm
 Spacing — Y 32mm
 — X 32mm
 Open % — 3%
 NRC Range
 (E-400) — 0.35



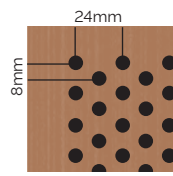
PL 6.
 Hole Ø — 8mm
 Spacing — Y 32mm
 — X 32mm
 Open % — 5%
 NRC Range
 (E-400) — 0.40



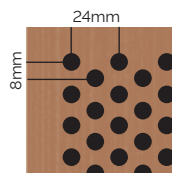
Staggered Patterns



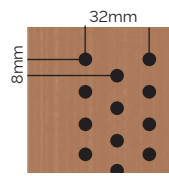
ST 1.
 Hole Ø — 6mm
 Spacing — Y 8mm
 — X 16mm
 Open % — 20%
 NRC Range
 (E-400) — 0.75



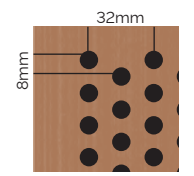
ST 2.
 Hole Ø — 6mm
 Spacing — Y 8mm
 — X 24mm
 Open % — 13%
 NRC Range
 (E-400) — 0.60



ST 3.
 Hole Ø — 8mm
 Spacing — Y 8mm
 — X 24mm
 Open % — 10%
 NRC Range
 (E-400) — 0.50



ST 4.
 Hole Ø — 6mm
 Spacing — Y 8mm
 — X 32mm
 Open % — 6%
 NRC Range
 (E-400) — 0.45



ST 5.
 Hole Ø — 8mm
 Spacing — Y 8mm
 — X 32mm
 Open % — 5%
 NRC Range
 (E-400) — 0.40



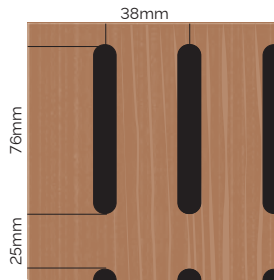
Custom Sizes and
 Patterns available.
 Contact LINEA for details

LINEA TENOR PANEL

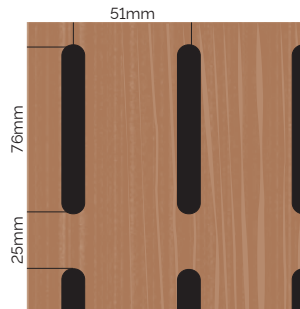
PRODUCT DATA SHEET



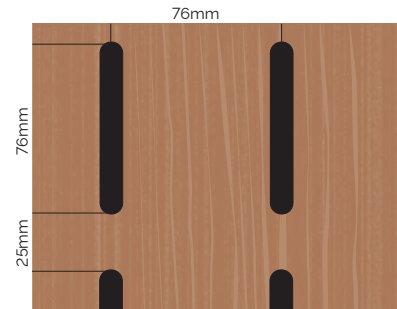
Slotted Patterns



SL 1.
 Slot Width —**3/8"** | 10mm
 Slot Length —**3"** | 76mm
 Left-Right Spacing —**1-1/2"** | 38mm oc
 End to End Spacing —**1"** | 25mm
 Open area percentage | 19%
 NRC Range (E-400) *Estimated* | 0.75



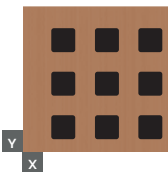
SL 2.
 Slot Width —**3/8"** | 10mm
 Slot Length —**3"** | 76mm
 Left-Right Spacing —**2"** | 51mm oc
 End to End Spacing —**1"** | 25mm
 Open % | 15%
 NRC Range (E-400) *Estimated* | 0.65



SL 3.
 Slot Width —**3/8"** | 10mm
 Slot Length —**3"** | 76mm
 Left-Right Spacing —**2"** | 76mm oc
 End to End Spacing —**1"** | 25mm
 Open % | 10%
 NRC Range (E-400) *Estimated* | 0.55



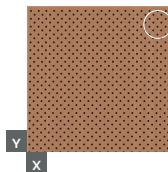
Squared Perforated Patterns



Hole Ø —**30mm**
 Spacing —Y 55mm
 —X 55mm
NRC Range
 (E-400) *Estimated* —0.90



MicroPerforated Patterns



Hole Ø —**0.65mm**
 Spacing —Y 2mm
 —X 2mm
NRC Range
 —Up to 0.95 (with 2" Insulation) *

Available with:

Linea Textured Face



Linea Textured Face with microperforations



DISCLAIMER

A single sample may not accurately represent the full range of natural variations to be expected. Due to the inherent properties and characteristics of wood, these samples should be viewed as an approximation of what can be obtained. Some wood species have more natural variance in appearance than others. We have made every effort to make colors as accurate as possible. Colors on screen may vary depending on your screen setting and resolution. **Contact LINEA for more details.**

PHYSICAL DATA

WOOD SELECTIONS	
Wood Species	LINEA Tenor Panels may be specified in a wide variety of real wood or engineered wood veneers.
Internal Core	LINEA Tenor Panel cores are made from Class A fire rated, high recycled content MDF or Particleboard composite materials. Cores can be specified as FSC Certified and with No Added Urea Formaldehyde (NAUF).
FINISHES	
Finishes	LINEA Tenor Panel for interior applications are factory finished smooth in a Clear low VOC coating Tinted clear finishes, custom stains and painted finishes are also available. Sheen options include matte, satin, or semi-gloss.
Acoustic Fabric	The back of the LINEA Tenor Panel has a factory applied SoundTex acoustic fabric backer for enhanced sound absorption (excluding Non-Perforated).
Surface Texture	Surface appearance as smooth or LINEA Textured Face.
Antibacterial	LINEA offers an antibacterial coating for interior wood product installations where cleanliness and hygiene are of the utmost importance. The coating has been specially formulated to provide excellent object/surface protection levels and deliver extraordinarily high physical/chemical resistance. Furthermore, the presence of active metals boosts durability and protects the coating film from bacterial attack and the effects will last over time. Contact LINEA for details.
PANEL SIZES	
Sizes	LINEA Tenor Panels are manufactured and sold in common sizes as nominal 2'x2', 2'x4', 2'x6', 4' x 4' or can be customized smaller or larger up to a maximum of 4'x6' for more design flexibility
Tolerances	LINEA Tenor Panels are built in accordance with CISCA dimensional tolerances.
Panel Weight	Weight depends on panel thickness and frame. Generally a 1-3/8" (35mm) thick panel weighs about 3.5 lbs / SF (17.1 kg/m ²), and a 2-3/8" thick panel weighs approximately 5.5 lbs / SF (26.85 kg/m ²). Solid wood border frames can add significantly to these weights.
TECHNICAL DATA	
Fire Rating Veneer/ Composite	LINEA Tenor Panels with real wood or engineered wood veneers are laminated to Class A Fire Rated, recycled, MDF or Particleboard composite cores. The combination of Wood Veneer and Finish is less than 1mm thick (0.5mm in most cases) and therefore should not be considered significant to the overall rating (per AWI/AWMAC).
Acoustics	LINEA Tenor Panels come standard with SoundTex acoustic backing for enhanced sound absorption (excluding Non-Perforated). When paired with acoustical insulation or duct liner behind, LINEA Panels can achieve high NRC Ratings up to 1.00. Generally, the higher the open area percentage the greater the sound attenuation.
Seismic	LINEA Tenor Panels are engineered for applications in all seismic areas when installed per LINEA installation instructions and local code.
Suspension Systems	LINEA Tenor Panels are commonly suspended from, but not limited to, 15/16" Heavy Duty T-Grid using no less than 12-gauge steel wire. For wall applications, Z-clips provide a secure attachment to furring or a ply board wall.
Installation and Safety	LINEA Tenor Panels are designed to be installed to 15/16" HD T-bar using a variety of installation hardware or machining profile options. LINEA recommends the use of Safety and Fall Restraint accessories for all installations. Local building codes should be consulted in order to determine additional seismic requirements.
Warranty	1 Year Warranty on all LINEA panel products. <i>Contact LINEA for details.</i>
SHIPPING AND SITE CONDITIONS	
Shipping	LINEA products are carefully packaged and shipped in palletized wooden crates.
Site Conditions	Wood products are hygroscopic in nature and must be stored, installed & maintained in a controlled building environment. Temperature range should be maintained between 60°–90° F (15–32° C). Relative Humidity range should be kept within a minimum 25% max. 55% (not to exceed 20% RH from peaks to valleys). Failure to maintain site conditions will void the LINEA warranty

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ACOUSTICS

LINEA TENOR PANELS can achieve high NRC ratings up to (1.00) and SAA (0.99) Ratings

The layered construction of the LINEA Tenor Panel provides three points of acoustic diffusion.

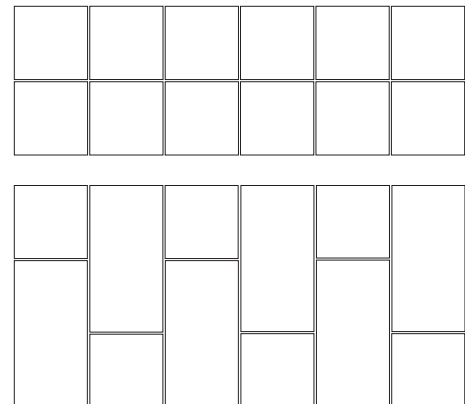
LINEA TENOR PANEL				E-400 MOUNTING - NRC/SAA	TYPE 5 MOUNTING - NRC/SAA
PANEL THICKNESS		CORE THICKNESS			
28mm	1-1/8"	19mm	3/4"	0.80 / 0.82	0.70 / 0.69
35mm	1-3/8"	25mm	1"	0.90 / 0.91	0.80 / 0.79
60mm	2-3/8"	51mm	2"	1.00 / 0.98	1.00 / 1.03

Disclaimer

Not all perforation patterns and variations have been acoustic tested. Some NRC Ranges are based on open area calculations or as advertised by similar industry resources



Pattern Considerations



Disclaimers

Appearance

Variation among wood panel appearance may occur due to the natural characteristics of real wood and wood grain. Variation may be reduced, but not eliminated by using custom stains, tinted clear finishes or engineered wood veneers.

Fire Performance

Individual product components (wood, fabric, metal, finish) comply with Class A fire retardant testing. ASTM E-84 and CAN/ULC S-102 submittal data is based on supplier tests. Product assembly testing has not been completed due to assemblies varying on a project-by-project basis. To exceed today's changing codes and environmental requirements, Linea recommends installing sprinklers in addition to WW using chemical fire retardants. Linea recommends the specifier consult a fire protection engineer, NFPA 13, and local codes for assistance where fire suppression and automatic fire detection systems are present.

Test Results Disclaimer

Test results achieved by 3rd party, NVLAP accredited laboratory testing and in accordance with ASTM C423; Mounting per ASTM E795: Type E-400 & Type A; and achieved with SoundTex fabric as well as 1-1/2" thick, 2 lb/ft³ acoustical infill. Results in field may differ from test lab results due to the varying and unique environmental characteristics of each space and location.



LEED®

Linea products can contribute towards LEED certification

MR-2.1 2.2	Construction Waste Management
MR-3.1 3.2	Materials Reuse
MR-4.1 4.2	Recycled Content
MR-5.1 5.2	Regional Materials (location dependent)
MR-7.0	Wood available as FSC Certified, upon request
EQ-3.1 3.2	Construction IAQ Management Plan
EQ-4.1 4.2 4.4	Low emitting materials