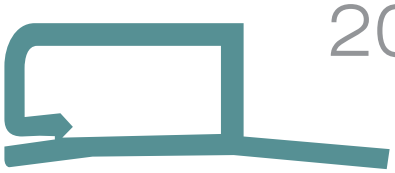
AcousticsWest
manufacturing ltd.

BULLNOSE TRAC



2072

½" (12.5mm)

2071

1" (25mm)

BEVEL EDGE TRAC

2265

½" (12.5mm)

2288

1" (25mm)

SQUARE EDGE TRAC

2678

½" (12.5mm)

2677

1" (25mm)

CEILING/CORNER TRAC

2343

½" (12.5mm)

2360

1" (25mm)

TECHNICAL DATA

ACOUSTIC & TACKABLE BACKING MATERIALS

The ACOUSTI-TRAC™ system is uniquely flexible and designed to accommodate any type of upholstered, acoustic, reflective or tackable core material. Unless specified otherwise, products listed below are standard acoustic cores:

WHISPERTONE WALLBOARD (25mm)

Rigid fiberglass board ideal for tackable and/or acoustic wall applications. Highly impact resilient.

Armstrong 769A or equivalent

Rigid High Density perforated mineral fiber board, ideal for tackable and/or acoustic wall panel applications. High impact resistance.

4.5# F.G.B. (25mm, 37mm, 50mm),

Semi-rigid fiberglass acoustic board. Does not deteriorate with impact. Not suitable for tackboards.

6# F.G.B. (25mm, 37mm, 50mm)

Very high density fibreglass board used in special acoustic applications and where abuse is a consideration.

N.R.C. Rating: Based on sound absorption coefficients obtained by the American Society of Testing and Materials procedure C-423 (ASTM C-423). The N.R.C. is a simple average of sound absorption coefficients for the frequencies 250, 500, 1000, 2000 & 4000 Hz; the important ranges for speech.

SOUND ABSORPTION CO-EFFICIENTS

Material	Density		Thickness		Frequency (Hz)						
	pcf	kg/m3	inches	mm	125	250	500	1000	2000	4000	NRC**
Whispertone Wall board 25 mm	6.0	96.1	1	25	0.08	0.31	0.78	1.00	1.03	1.02	0.80
Armstrong 769A or equivalent .05			1.5	13	0.05	0.18	0.49	0.63	0.71	0.76	0.50
4.5# F.G.B. 25mm	4.5	75.05	1	25	0.09	0.28	0.71	0.93	0.98	1.01	0.75
4.5# F.G.B. 37mm	4.5	75.06	1.5	37	0.18	0.47	0.92	1.00	1.02	0.81	0.85
4.5# F.G.B. 50mm	4.5	75.06	2	50	0.25	0.76	1.09	1.07	1.03	0.83	1.00
6# F.G.B. 25mm	6.0	96.1	1	25	0.08	0.31	0.78	1.00	1.03	1.02	0.80

** Noise Reduction Coefficient

FIRE HAZARD CLASSIFICATIONS

	Fibreglass	CGC Micore	ACOUSTI-TRAC™
Flame Spread	10 – 20	25	BELOW 25
Smoke Developed	0 – 10	10	Class A

ROOM ACOUSTICS

SIMPLIFIED ACOUSTICS

The following simplification of acoustical principles will enable you to evaluate how much acoustical material is required.

LOUDNESS OF DIRECT SOUND

The loudness of direct sound waves to a listener is determined by: (1) the loudness of the original source, and (2) the listener distance from the source. The loudness of the direct sound decreases with the square of the distance from the source so that the loudness decreases very rapidly close to the source, but as the distance from the source increases, a change in distance has little effect.

REFLECTED SOUND

When a sound wave strikes a surface such as a floor, wall, or ceiling, the direction of travel is changed by reflection. Reflection of sound waves follow the same physical law as light reflection. The angle of incidence equals the angle of reflection.

MULTIPLE REFLECTIONS

Sound travels about 730 miles per hour in all directions. Quickly the original sound is reflecting from all of the surfaces again and again. At any given moment a listener will not only hear the current direct sound, but portions of earlier sounds that are reflected one or more times. Soon sounds are travelling in every possible direction. The multiple reflection of sound waves has two effects on acoustics: (1) loudness is increased, and (2) it causes reverberation.

LOUDNESS OF COMBINED DIRECT AND REFLECTED SOUND

The loudness of reflected sound is always less than direct sound because (1) reflected sound travels further and loudness diminishes with distance, and (2) reflected sound loses some energy by absorption at each reflection. The combination of direct sound and reflected sound results in loudness that is greater than direct sound alone. Loudness of reflected sound depends on room absorption while direct sound depends only on the distance from the source. The overall effect on loudness is determined by absorption present within the room.

REVERBERATION

Reflected waves will continue ricocheting between room surfaces losing only a fraction of power by absorption at each reflection. The prolongation of sound is called reverberation. The sound will gradually diminish.

ROOM ACOUSTICS

REVERBERATION TIME

Reverberation time is the time measured in seconds that a sound average loudness can be heard before it becomes completely inaudible under quiet conditions. The time may vary from 1/2 second in a very "dead" room to 5 or 10 seconds in an excessively "live" reverberant room.

SPEECH AND COMMUNICATION

"The maximum reverberation time for clear speech is about 2 seconds". When reverberation time exceeds 2 seconds and moves upward, speech becomes increasingly more difficult to understand. Speech finally becomes unintelligible at reverberation times of 4 to 10 seconds. Speech intelligibility improves as reverberation time decreases below 2 seconds. The ideal for classrooms or lecture spaces is actually lower than 1 second.

MUSIC

Optimum reverberation time for orchestral, choral and church music generally ranges between 1/2 to 2 seconds; large organs: 2 seconds or more, and chamber music: 1 to 1 1/2 seconds.

REVERBERATION EFFECT ON HEARING

½ to 1 second	Speech — GOOD Music — TOO DEAD
1 to 1½ seconds	Speech — GOOD Music — FAIR
1½ to 2 seconds	Speech — FAIR Music — GOOD
Over 2 seconds	Speech — POOR Music — FAIR TO POOR

ECHO

A distinct repetition of a direct sound is an echo. In a highly reverberant room, an echo gets lost in the general reverberation. An echo is easily distinguished if the interval is greater than 1/2 second in a room with low reverberation time. Sounds reflected from flat surfaces will be less intense than the original direct sound. Sound reflected from concave surfaces has a focussing action that produces very annoying echoes.

SOUND ABSORPTION AND COEFFICIENTS

Hard, reflective, nonporous interior building surfaces such as glass, wood, plaster, brick and concrete absorb 2% to 5% of the sounds striking the surface and reflect 95% or more of the sound. Absorption coefficients are expressed as a percentage of sound absorbed. A perfect sound absorber is an open window since it permits 100% of the sound to escape and not return. Adsorption coefficients are usually measured at 125, 250, 500, 1000, 2000, and 4000 cycles (Hz).

SPECIFICATIONS

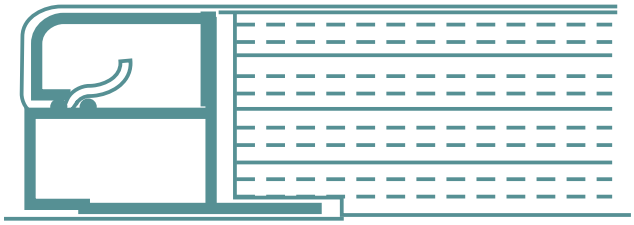
ACOUSTI-TRAC™ can be applied on many different surfaces and thicknesses with different acoustic substrates to achieve various acoustic attributes.

- Specification: Stretch fabric acoustic wall panels.
- Acoustic 13 mm (1/2”)
- Acoustic 25 mm (1”)
- Acoustic Low Frequency 13 mm (1/2”)
- Acoustic Low Frequency 25 mm (1”)
- Decorative / Light Acoustic 13 mm (1/2”)
- Tackable / Acoustic 13 mm (1/2”)
- Sound Reflective 13 mm (1/2”)
- Magnetic 13 mm (1/2”)

Can be configured in various thicknesses or combinations.

Specifications available at ACOUSTI-TRAC.COM

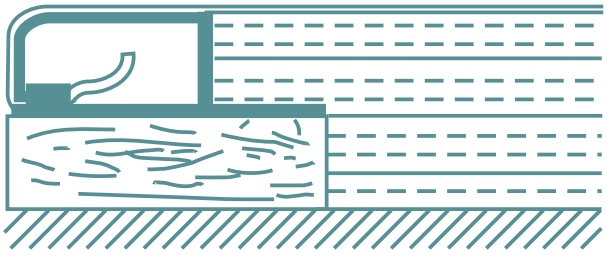
ACOUSTIC



Fabric panel with 1" PVC extrusion.
With 1" fiberglass core.
Plywood shims can be added to incorporate 38mm (1.5") or 51 mm (2") acoustic cores

* Shown using the 1" bullnose trac.

ACOUSTIC or CONCRETE BLOCK



Fabric panel with plywood shim secured to concrete substrate with 1" fiberglass core.
Additional shims can be added to incorporate 38mm (1.5") or 51 mm (2") acoustic cores

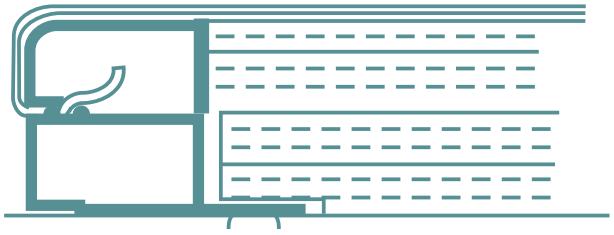
* Shown using the 1" bullnose trac.

ACOUSTIC - LOW FREQUENCY

Fabric panel with 6 mil POLY stretched taught over acoustic core - not adhered.
Provides greater low frequency attenuation.

* Shown using the ½" bullnose trac.

ACOUSTIC - LOW FREQUENCY



Fabric panel with 6 mil POLY stretched taught over pvc extrusion frame.
No contact with acoustic core.
Super low frequency attenuation.

* Shown using the 1" bullnose trac.

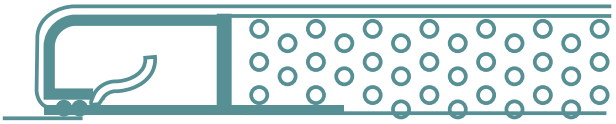
*6 mil POLY has superior properties to act as a diaphram than does vinyl fabric. Glueing or adhering poly to acoustic core greatly reduces its ability to act as a diaphram and control low frequency sound.

DECORATIVE / LIGHT ACOUSTIC

Fabric panel with mineral ceiling tile.
Plush and Acoustic - ideal for offices.
Fiberglass scrim surface is pinable.

* Shown using the ½" bullnose trac.

TACKABLE / ACOUSTIC



Panel with 12.5mm rigid styrofoam core.
Rigid core - ideal for high traffic areas.
Highly tackable

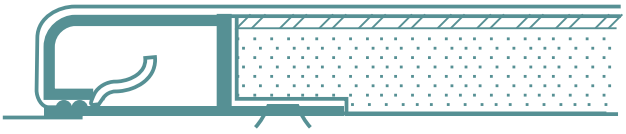
* Shown using the ½" bullnose trac.

SOUND REFLECTIVE

Fabric panel with ½" GYPSUM for sound reflective surfaces.
To be co-ordinated with acoustic panels.

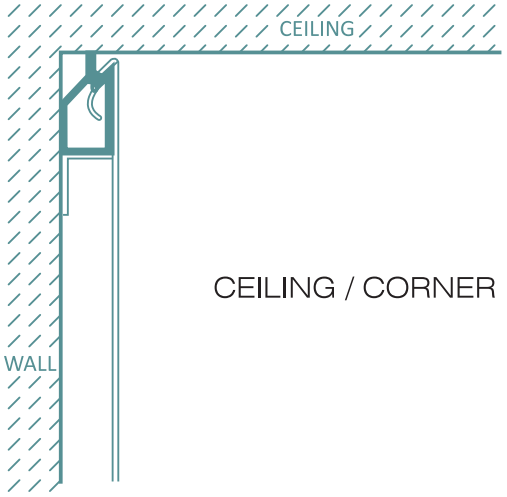
* Shown using the ½" bullnose trac.

MAGNETIC

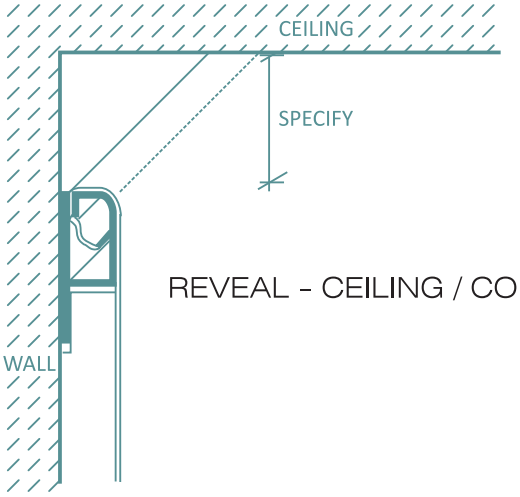


Fabric panel with Medite board and sheet metal for magnetic panels.

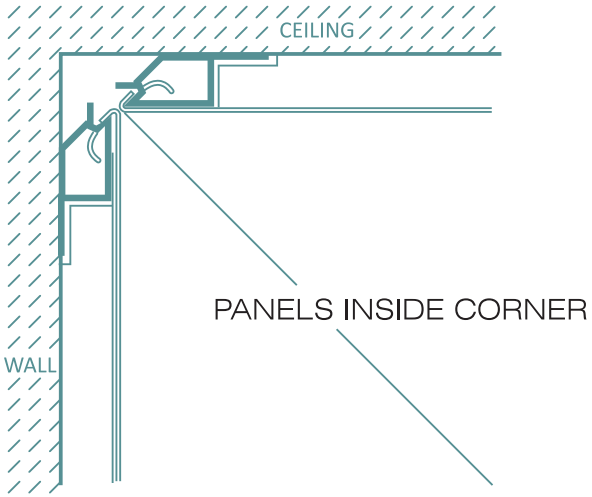
* Shown using the ½" bullnose trac.



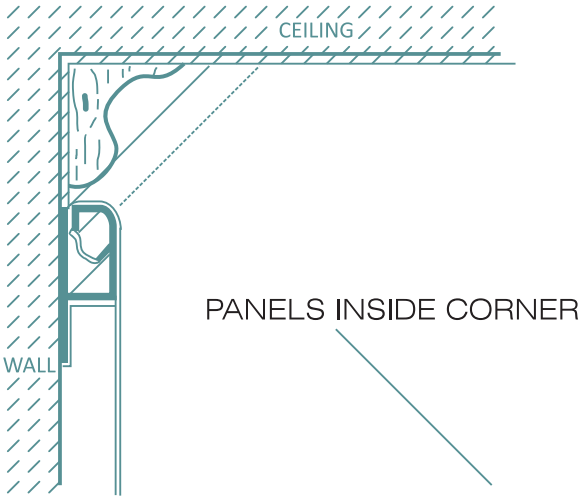
CEILING / CORNER



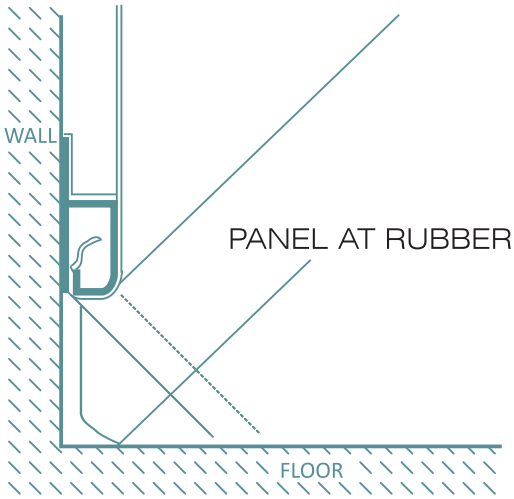
REVEAL - CEILING / CORNER



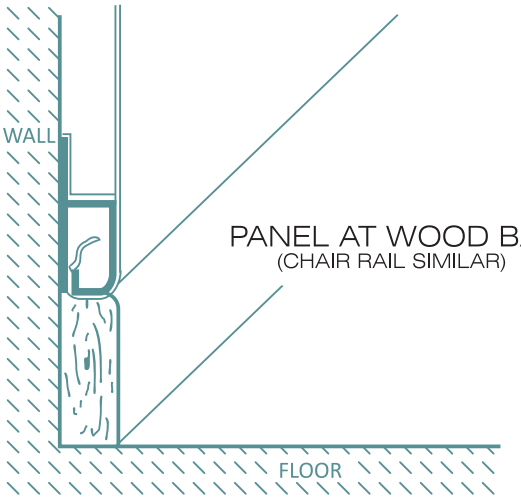
PANELS INSIDE CORNER



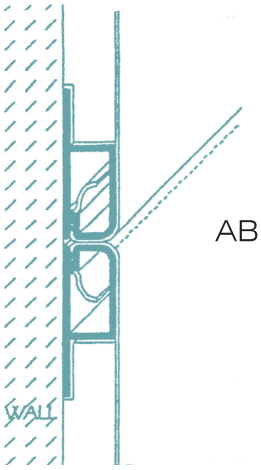
PANELS INSIDE CORNER



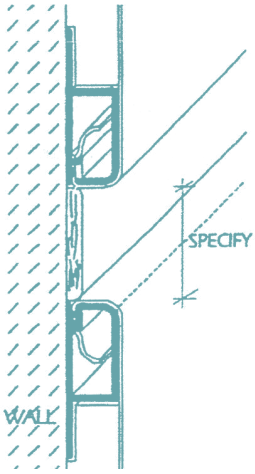
PANEL AT RUBBER BASE



PANEL AT WOOD BASE
(CHAIR RAIL SIMILAR)



ABUTTED PANELS
(BULLNOSE)

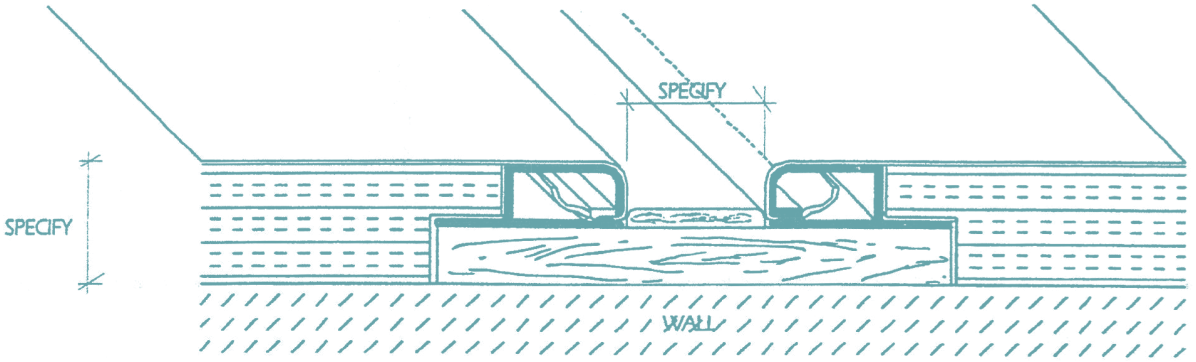


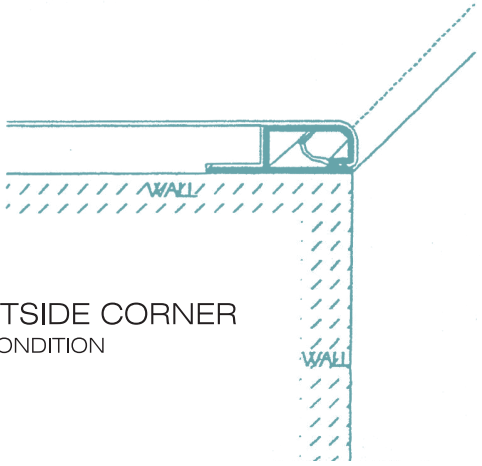
REVEAL - INSERT pr PAINTED

REVEALS = HORIZONTAL - VERTICAL - DIAGONAL
INSERTS = WOOD VENEER - LAMINATE - METALIC
PAINTED = DIRECT TO WALL SURFACE

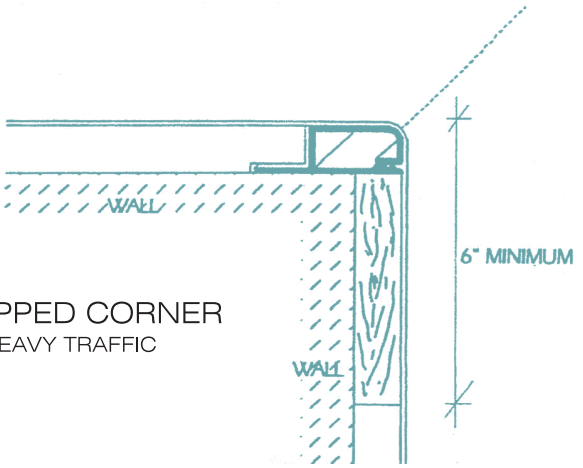
REVEAL - ACOUSTIC PANELS

REVEAL=
- PAINTED
- INSERT

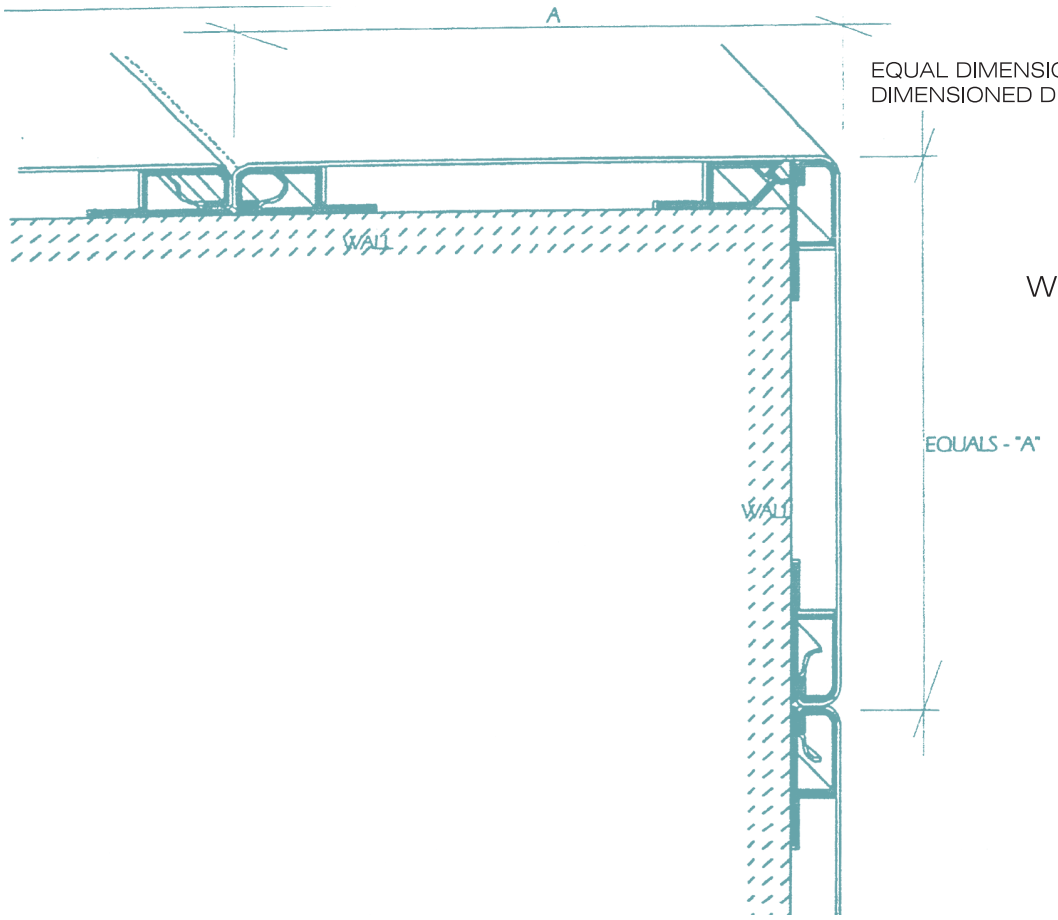




PANEL AT OUTSIDE CORNER
END CONDITION

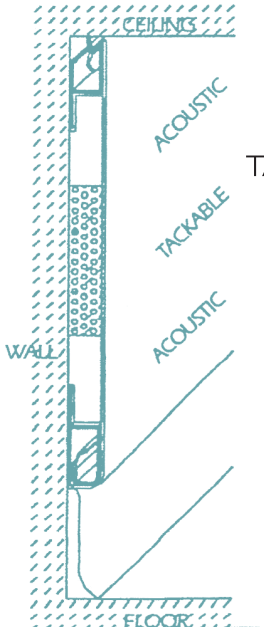


WRAPPED CORNER
HEAVY TRAFFIC

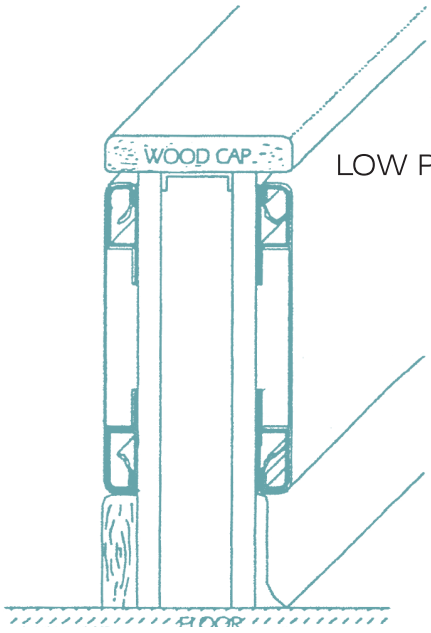


EQUAL DIMENSIONS BOTH SIDES
DIMENSIONED DETERMINED BY WIDTH OF FABRIC.

WRAPPED CORNER



TACKABLE / ACOUSTIC PANEL



LOW PARTITION / RAILING

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