





## DECOUSTICS SEFAR LIGHTFRAME®

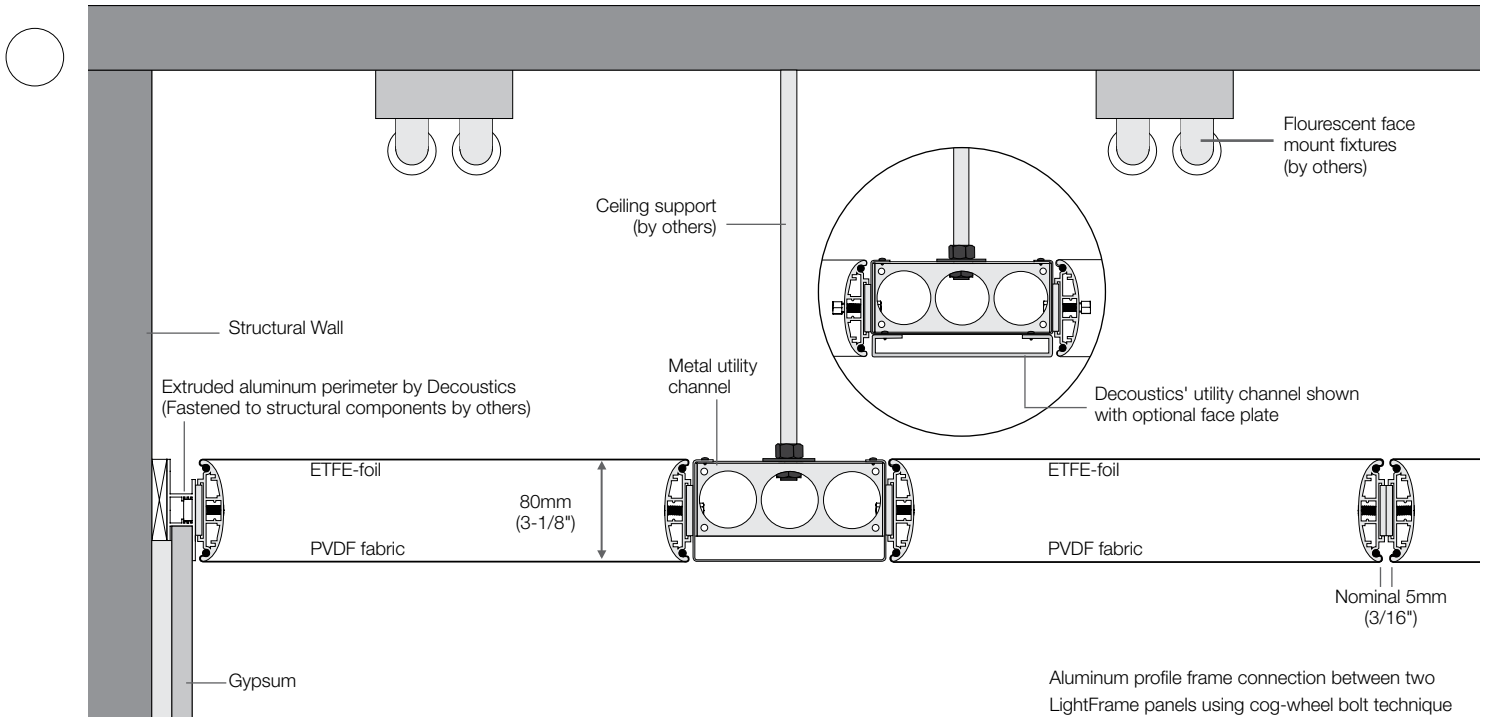
LIGHTFRAME is an accessible translucent fabric ceiling and wall system. It provides light transmission rates up to 83% and NRC values up to 0.9. The precision monofilament fabric optimizes artificial or natural light transfusion without any color shift, giving even light illumination. Extremely narrow seams and an elliptic profile ensure illuminated surfaces are practically shadow-free.

Unique finishing and coating techniques ensure UV durability without fading, while the materials remain extremely tough and long-lasting. All fabrics used in LightFrame panels are rated Class A according to ASTM E84, and carry a limited 10 year warranty on the fabric, 1 year on the panel frame.

### Technical attributes

- The LightFrame panels are assembled and pre-stressed utilizing a lightweight aluminum profile.
- Narrow half-elliptical profile for minimized shadows and loss of light
- Panel installations feature minimal gaps between the panels (nominal 5mm [3/16"])
- Wrinkle-free, pre-stressed, smooth membrane fabric facing
- LightFrame panels are completely downwardly accessible
- All LightFrame panels are free of plasticizers and feature low VOC's
- LightFrame panels are resistant to dirt
- LightFrame panels are only available in square or rectangular shapes.

## Installation Details



## The system at a glance

### Construction

The LightFrame consists of single panels that can be installed in either butt joint or reveal layouts. LightFrame panels feature stretched fabric construction that is secured in the aluminum frame with a spline. The rear of the panel is faced with a clear or opaque thin film or an additional layer of fabric to optimize light transmission and acoustic properties.

### Size

Panels are custom manufactured to suit project installations. The optimal maximum panel width is 1.5m (5ft) and optimal maximum length is 3m (10ft). Depending on the selected LightFrame construction, available fabric width and site accessibility may limit the maximum available panel size.

### Perimeter

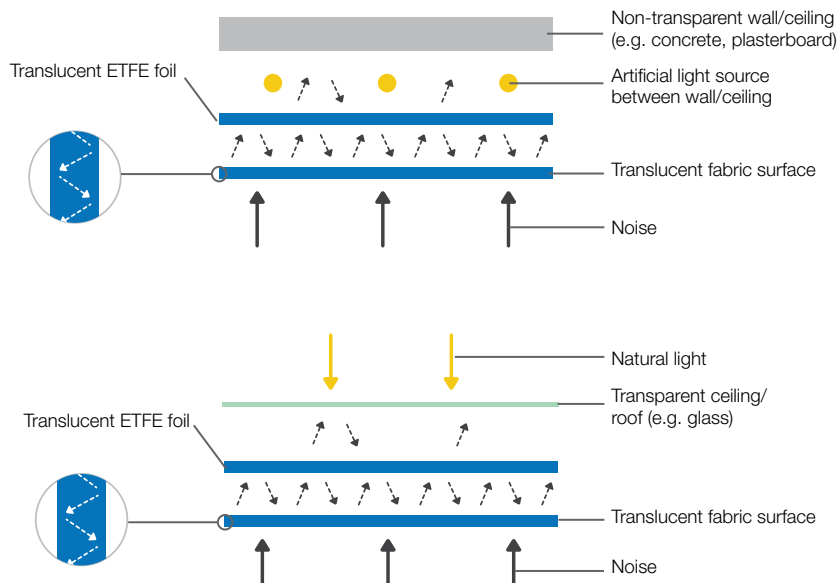
Decoustics offers an extruded aluminum pre-machined perimeter that precisely mates with LightFrame panels. The perimeter is non-structural and must be affixed to a rated structural component in the building (by others).

All perimeter structures must be engineered and meet all local codes. It is essential that the perimeter be designed by a qualified engineer. Typical materials to construct the structural perimeters include: structural steel shapes (consisting of angles, square profile, channels, S and W shapes), aluminum tubes (including square and rectangular shapes) and engineered wood structures. The LightFrame ceiling system accommodates the installation of sprinkler heads, lighting and air diffusers by incorporating these elements into utility channels which are part of the ceiling design.

### Utility channel

Decoustics' utility channels are custom designed and engineered to work with LightFrame panels. Custom machining ensures that all connections between the LightFrame panels and the utility channel align allowing for easy and accurate installation. All utility channels are fabricated to suit the project installation. Penetrations in the utility channel are available at additional costs. All standard utility channels feature a white finished face, an optional face plate is available.





## Light transmitting fabrics

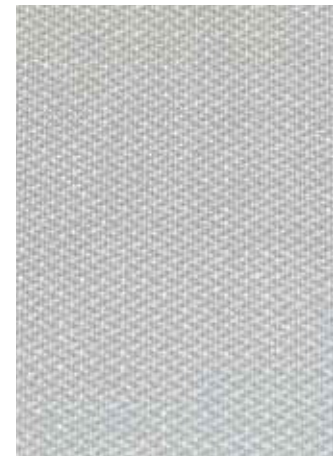
Light that penetrates a membrane is affected by many factors. The parameters governing the reflection and absorption properties of a membrane directly influence the light transmission (ASTM D1003) through it.

PVDF is a high light transmitting fluoropolymer deployed in photometric fabrics which permits a high degree of diffusion of both artificial and natural light without color displacement.

## Acoustic fabrics

Compared with traditional, hard building products on the interior surfaces like concrete, glass and metal, SEFAR fabric is light, soft and reminiscent of natural materials. LightFrame can influence Environmental Acoustics™ and workplace efficiency.

FINISH		FREQUENCY (Hz)						NRC	SAA
		125	250	500	1000	2000	4000		
Volare (IA-85-OP)	*Face Fabric to Foil on back option	0.78	0.55	0.47	0.80	0.64	0.59	0.60	0.57
Volare (IA-85-OP)	Fabric to Fabric	0.88	0.76	0.74	0.91	0.74	0.72	0.80	0.78
Seta (IA-80-CL)	Fabric to Foil	0.91	0.79	0.53	0.77	0.79	0.75	0.70	0.67
Seta (IA-80-CL)	Fabric to Fabric	0.94	0.89	0.80	0.98	0.96	1.07	0.90	0.90



Seta (IA-80-CL)  
Woven pore structure



Volare (IA-85-OP)  
perforated pore structure

For fabric samples and system information, please contact a local Decoustics representative or visit <http://www.decoustics.com>.



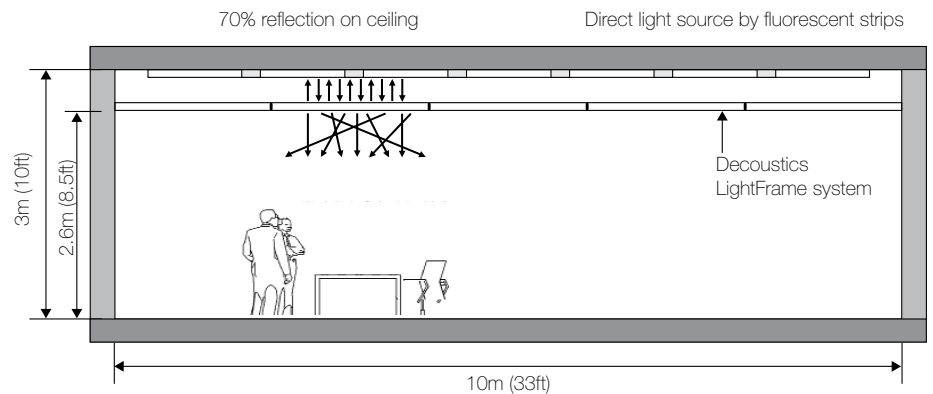
Photo: Acrevis Bank in Gossau, Switzerland

## Diffuse light

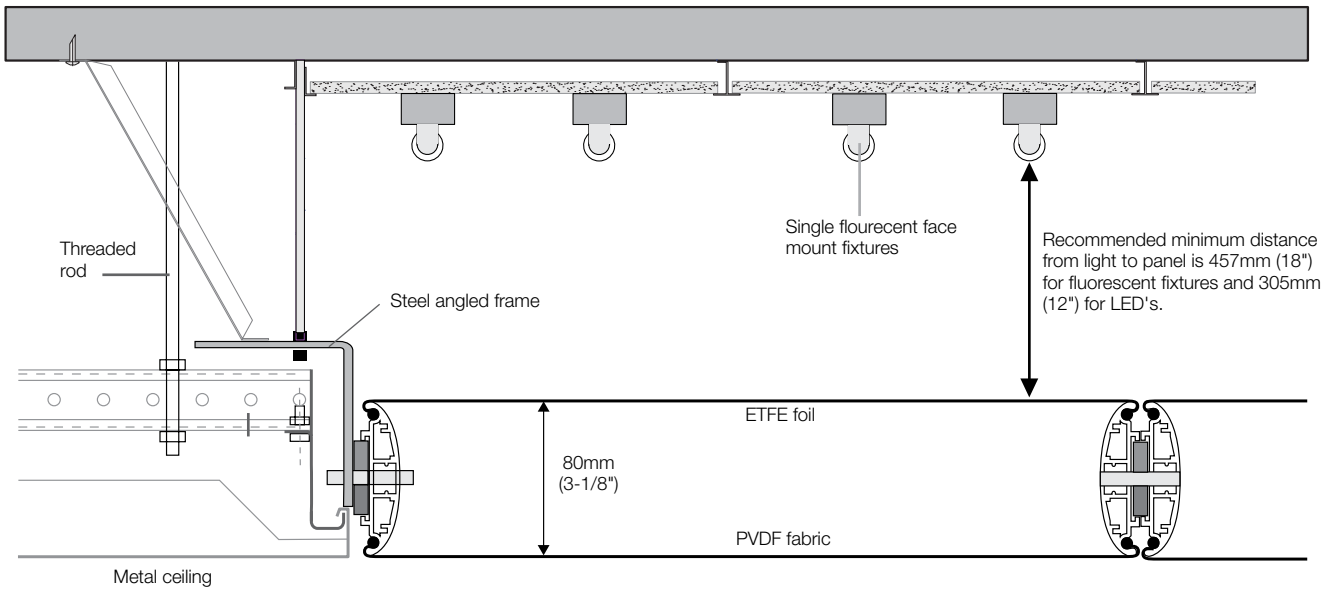
The Decoustics LightFrame system achieves light transmission rates up to 83%. The transmitted light contains a high proportion of diffused light, also known as scattered light. This gives a balanced illumination by reducing contrasts, especially in shaded areas. The fabric gives the impression of being a light source yet functions as a light diffuser for both natural daylight and artificial lighting.

Fabric options	Lighting technology											
	Light transmission			Footcandles at 3ft.								
				Fluorescent strips 4ft/28W			Fluorescent strips 5ft/49W			Fluorescent strips 5ft/80W		
				Fabric and opaque foil (%)			Fabric and translucent foil (%)			Fabric and fabric (%)		
Volare (IA-85-OP)	26	83	72	15	31	27	25	51	45	30	60	54
Seta (IA-80-CL)	24	78	64	15	30	27	25	50	44	30	59	53

## Example of possible layout



## Installation Details



### Case Study: Building lobby

The entrance hall and lobby of this building was designed to have an open and airy feel. This was achieved with a glass curtain wall at the front of the space and LightFrame panels across the center of the room's ceiling. The LightFrame panels achieve a standard of illumination not possible with other materials. Each panel was suspended separately within its own structural perimeter. The individual panels are easily accessed by the building's maintenance team in order to change the lights above.

LightFrame panels are incorporated into the anthracite-colored expanded metal grid ceiling. The metal ceiling also has selectively placed, circular illumination fixtures. No shadows are cast by the LightFrame panels, which integrate seamlessly into the ceiling structure. The panels double-layer construction assists acoustic absorption in a predominantly reverberant architectural design.

The LightFrame system gives light transmission rates up to 83 percent and noise reduction coefficient (NRC) values up to 90 percent. This eliminates the dilemma of choosing between light transmission and sound reduction when selecting ceiling and wall finishes. The fabric optimizes artificial and natural light transfection without color shift, giving an even illumination.

Photo: Service Center, Rund ums Auto, Frankfurt, Germany



Photo: John Muggenborg / Muggphoto

## Case Study: Audi Manhattan Dealership

The design intent was to create the look of illuminated glass walls and ceilings when transforming a 256,000 square foot former Manhattan GM dealership into a modern Volkswagen and Audi showroom. The illuminated surfaces needed to be sound-absorbent in order to counteract the acoustically reflective surfaces in the room. Decoustics' LightFrame panels were custom engineered to be accessible and conform to the space. All wall and ceiling joints align to create a uniformed appearance throughout the installation.

The fabric was installed on both the back and the front of the LightFrame panels in order to maximize noise reduction. Spacing between the wall panels and the fluorescent lighting fixtures was minimized and the incorporation of a double layer of fabric helped reduce lighting hot spots. LightFrame panels do not allow penetrations through the panel. To facilitate the incorporate of a sprinkler system, utility channels were designed into the project.

The project space is used as a vehicle presentation area to facilitate the handover of vehicles to the purchasing client. The area is used on a limited basis with low traffic volumes. LightFrame installations on walls where they are accessible to the public are not recommended.



Photo: John Muggenborg / Muggphoto

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