

PROJECT		REFERENCE TYPE		DATE	
SPECIFIED BY		QUANTITY		NOTE	

Moisture Resistant Ceilings

Rather than a traditional ceiling above your pool, why not create a complete aquatic environment by incorporating vibrant colors, skylscapes, or even a 3D effect.

Velaria Systems will work with you to create the perfect user experience.



Velaria Systems stretch membranes are waterproof, making them the ideal ceiling system for pool areas or anywhere there are increased levels of moisture or humidity. Instead of absorbing water vapor which could lead damage or mold, water condenses on the surface of the membrane, where it can safely evaporate.

You can deliver amazing looking spaces without the echo associated with pool areas by selecting our enhanced acoustic option. Add lighting to provide high quality diffuse general lighting over the pool surface or as a way to make natural scenes come alive.

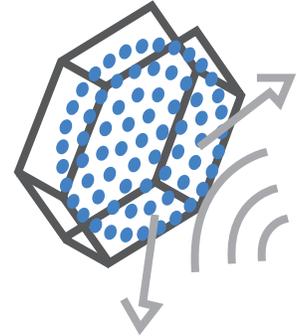
Getting Started

Natatoriums have some unique requirements so the best way to get started is to contact the Velaria Systems' Design Studio: designstudio@velariasystems.com

We will work with you to determine the best solution for your natatorium space whether a simple membrane ceiling or a luminous ceiling with enhanced acoustics.

Acoustic Performance

Natatoriums require that at least one membrane layer is not perforated to prevent moisture ingress into the ceiling cavity. Despite this limitation, Velaria Systems offers a range of acoustic performance options.



Comparison Tables

Non-Illuminated

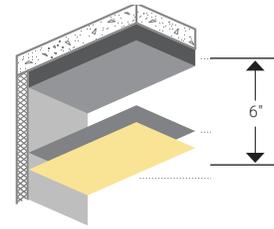
Performance Level	Description	Noise Reduction Coefficient (NRC)
Standard	Single Layer of Non-acoustic Membrane	0.20
Enhanced	Single Layer of Non-acoustic Membrane + Acoustic Absorber (1")	0.40
Ultra	Single Layer of Non-acoustic Membrane + Thick Acoustic Absorber (2")	0.65

Non-Illuminated

Performance Level	Description	Noise Reduction Coefficient (NRC)
Standard	Outer Layer Acoustic Membrane + Inner Layer of Non-acoustic Membrane (sealed) + Acoustic Light Panel (1")	0.60
Enhanced	Outer Layer Acoustic Membrane + Inner Layer of Non-acoustic Membrane (sealed) + Acoustic Light Panel + Acoustic Absorber (2")	0.80

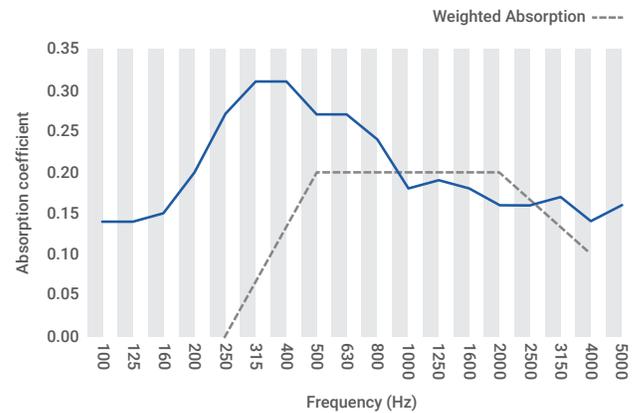
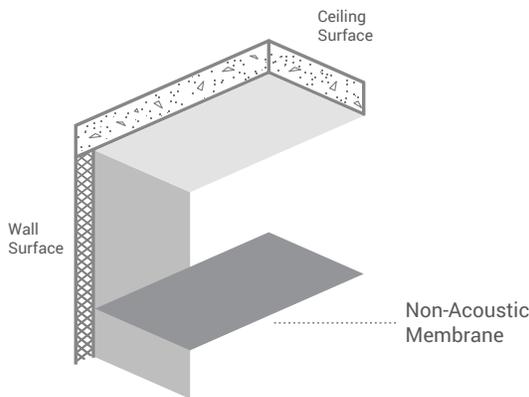
Non-Illuminated Configurations

(based on typical 6" space between surface and outer membrane)



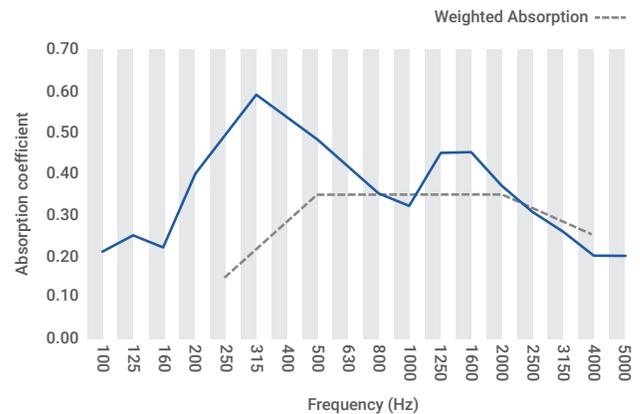
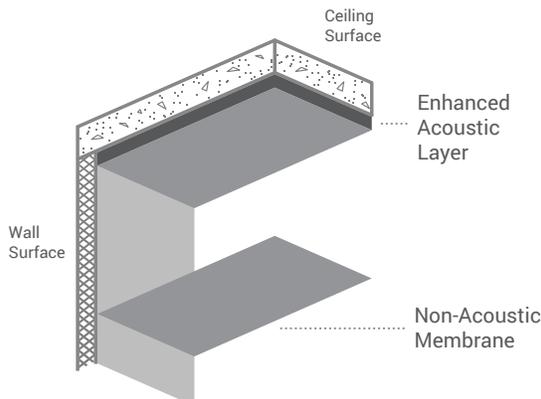
Standard

Frequency (Hz)	Noise Reduction Coefficient						Weighted Sound Absorption Coefficient (ISO EN 11654)	Sound Absorption Class (ISO EN 11654)
	125	250	500	1000	2000	4000		
α_s	0.14	0.27	0.27	0.18	0.17	0.14	0.20	E



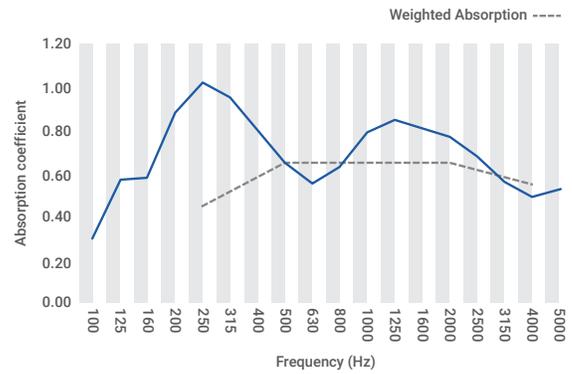
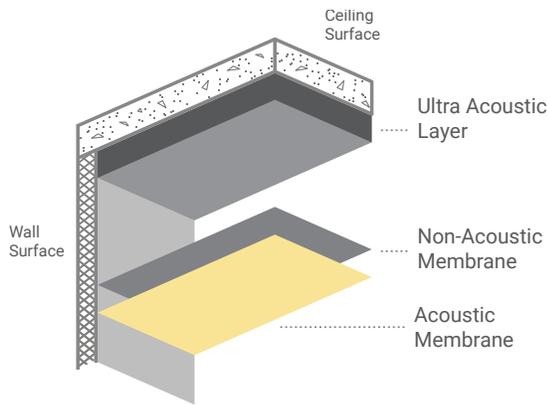
Enhanced

Frequency (Hz)	Noise Reduction Coefficient						Weighted Sound Absorption Coefficient (ISO EN 11654)	Sound Absorption Class (ISO EN 11654)
	125	250	500	1000	2000	4000		
α_s	0.25	0.49	0.48	0.32	0.37	0.2	0.35	D

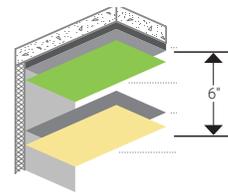


Ultra

Frequency (Hz)							Noise Reduction Coefficient	Weighted Sound Absorption Coefficient (ISO EN 11654)	Sound Absorption Class (ISO EN 11654)
	125	250	500	1000	2000	4000	NRC	α_w	Class
α_s	0.57	1.02	0.65	0.79	0.77	0.49	0.80	0,65 (L)	C

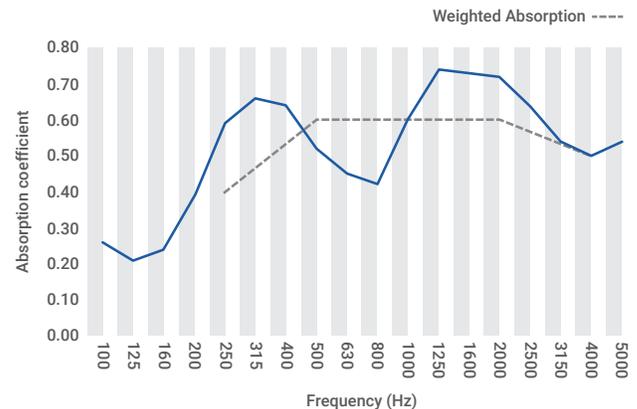
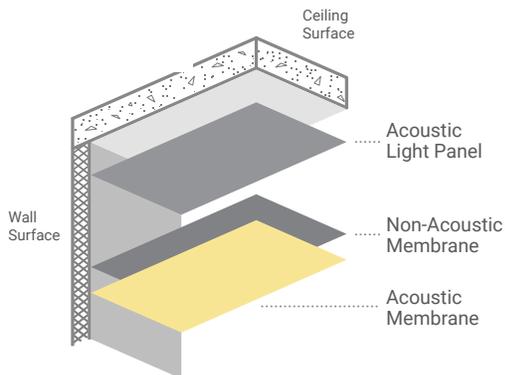


Backlighting Configurations



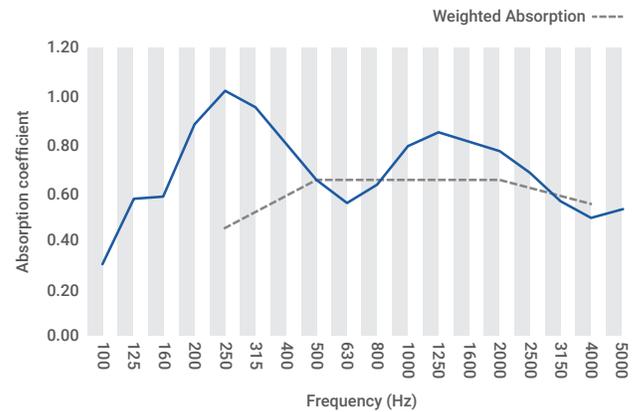
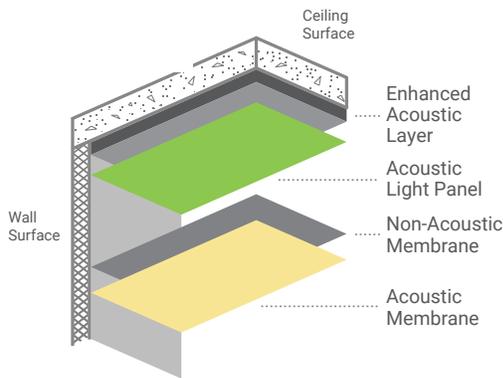
Standard

Frequency (Hz)							Noise Reduction Coefficient	Weighted Sound Absorption Coefficient (ISO EN 11654)	Sound Absorption Class (ISO EN 11654)
	125	250	500	1000	2000	4000	NRC	α_w	Class
α_s	0.21	0.59	0.52	0.6	0.72	0.5	0.60	0.6	C



Enhanced

	Frequency (Hz)						Noise Reduction Coefficient	Weighted Sound Absorption Coefficient (ISO EN 11654)	Sound Absorption Class (ISO EN 11654)
	125	250	500	1000	2000	4000	NRC	α_w	Class
α_s	0.57	1.02	0.65	0.79	0.77	0.49	0.80	0,65 (L)	C



Fire Ratings

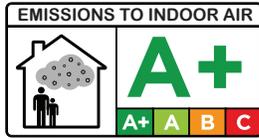
The fire rating for the membranes used in natatoriums is ASTM E84 Class A.

Sealing Considerations

Although the membranes used for natatoriums are waterproof, there is a requirement for additional sealant around the profiles used to attach the membranes to the ceiling. Fortunately, this is not something you have to worry about as Velaria Systems' trained installers already know this and will take care of it during installation.

Another reason to choose a fully integrated FAL (Finish + Acoustic + Light) system!

Environmental



A+ rating for Volatile Organic Compounds (VOC) emissions



100% Recyclable

Additional Design Options Available

Backlighting

Use a natural skyscape and use light to bring it to life

Illumination

A luminous ceiling will provide shadow free illumination ideal for pools

Certifications



CE certificate of conformity
EN 14716 1488-CPD-0106/W

CE CERTIFICATE OF CONFORMITY CE: 1488-CPD-0106/W COMPLIANCE WITH STANDARD:
EN 14716:2008 (system of assessment and verification of performance constancy 1)

How to Specify

Using our simple process, specifying a Natatorium membrane system is easy.

1. Determine if the ceiling will be used for illumination (or not)
2. Select the level of acoustic performance you need
3. If you have selected an image, add backlighting (or not)
4. Contact the Velaria Design Studio
5. In addition to your selections, we will need to know:
 - Size
 - Mounting Requirements (so we can select the correct profile to meet your requirement)*

*A wide selection of profiles is available to suit your specific requirements. Velaria Systems experts will recommend the best option to meet those requirements. No need for you to sort through a huge catalogue.

Specification Codes

NOTE: Specification Codes are provided for use as simple references to Velaria Systems Architectural Textile products in specifications and/or construction documents and may not include all details required to define the system. Specification Codes are NOT ordering codes. In order to receive quotations or purchase these products from Velaria Systems additional information may be required before issuing a quotation or accepting a purchase order.

<u>VS</u>	-	<u>SP</u>	-	<u>MEM</u>	-	<u>NAT</u>	-	<u>Acoustic Performance</u>	-	<u>STD</u> = No lighting <u>ILLUM</u> = Illumination
Velaria Systems		SP = Specialty		MEM = Membrane Systems		NAT = Natatorium AMB = Anti- Microbial		STD = Standard ENH = Enhanced ULT = Ultra		