BIG SPAN
STRUCTURES

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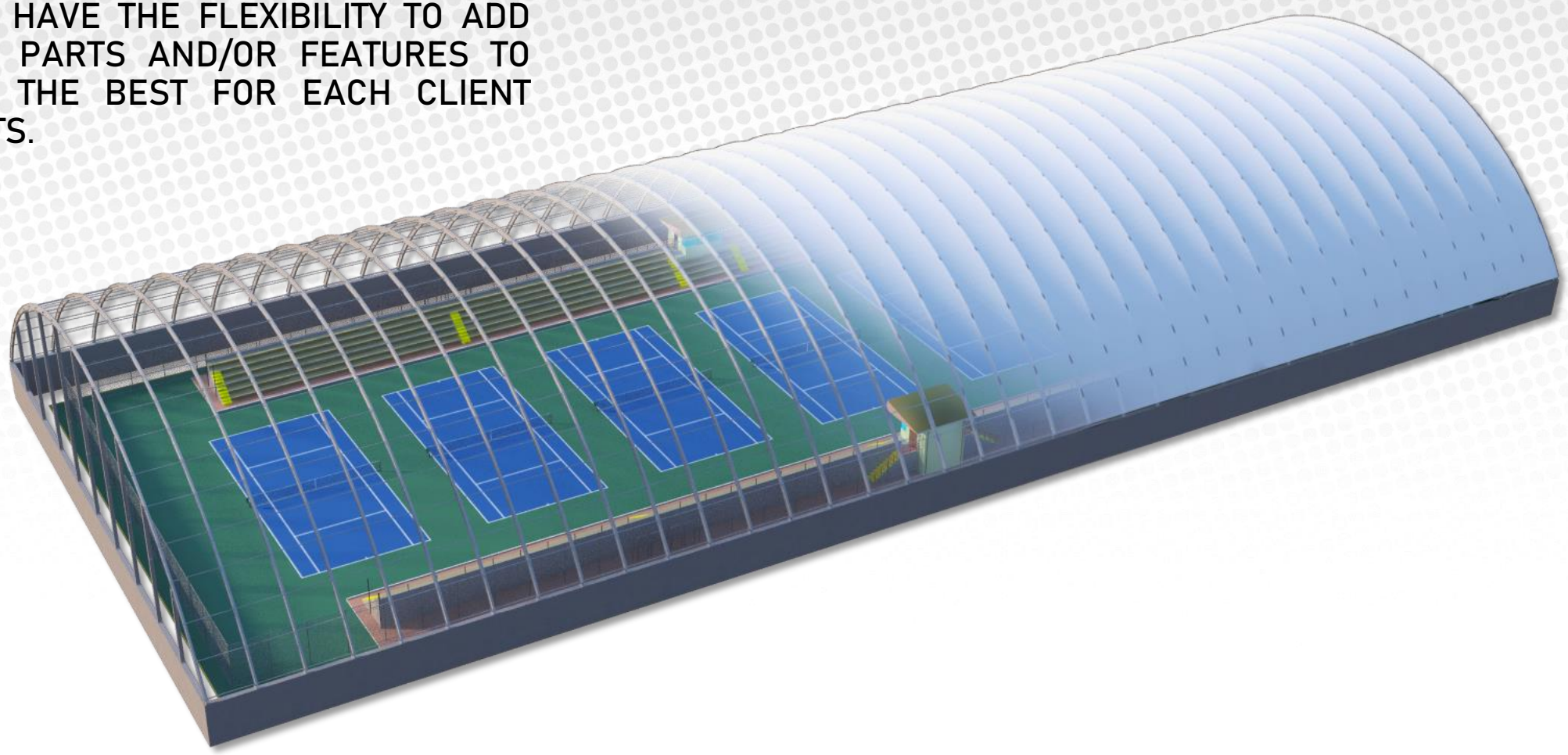
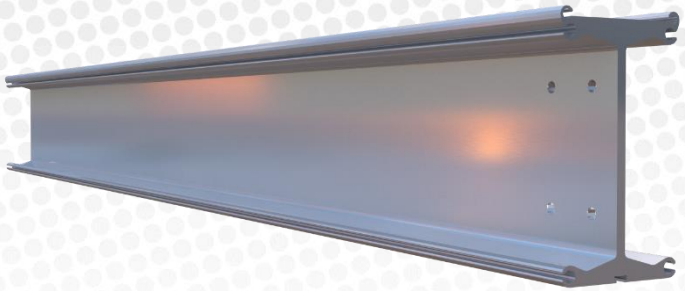
ALUMINUM MODULAR BUILDING

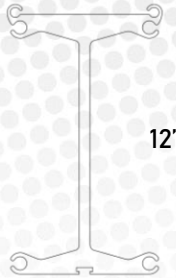
INTRODUCTION

- BIG SPAN STRUCTURES, LLC OFFERS PREDESIGNED ALUMINUM / FABRIC STRUCTURES AS AN ALTERNATIVE FOR MULTYUSE BUILDINGS. THE BUILDING WAS DESIGNED TO HAVE THE FLEXIBILITY TO ADD AND REMOVE PARTS AND/OR FEATURES TO ACCOMODATE THE BEST FOR EACH CLIENT REQUIREMENTS.

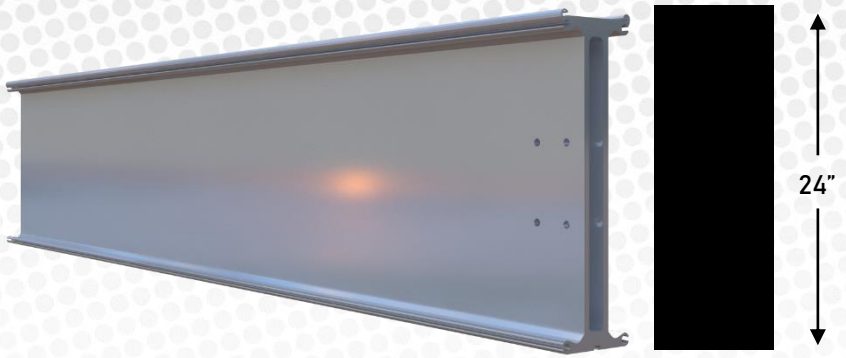


BEAM TYPES





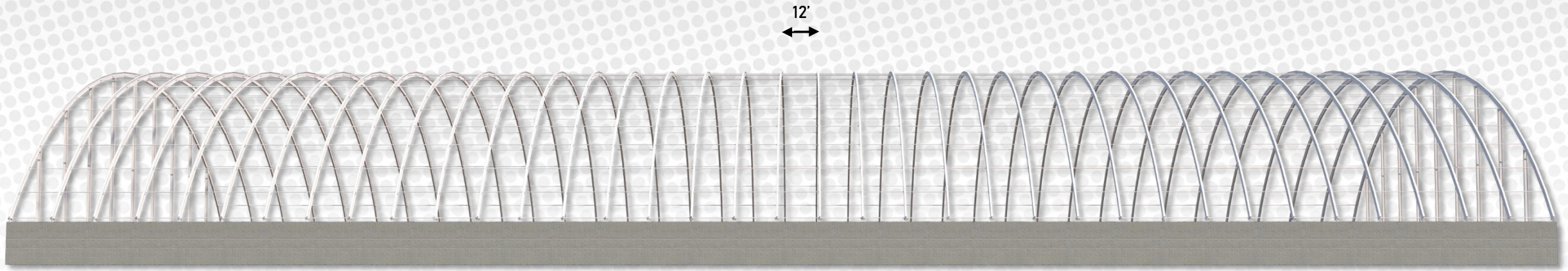
- BEAM B
- NORMALLY APPLIED FOR BUILDINGS BETWEEN 35m TO 48m
- 190 KM/H
- 200 KG/M2



- BEAM A
- NORMALLY APPLIED FOR BUILDINGS BETWEEN 25m TO 35m
- 190 KM/H
- 200 KG/M2

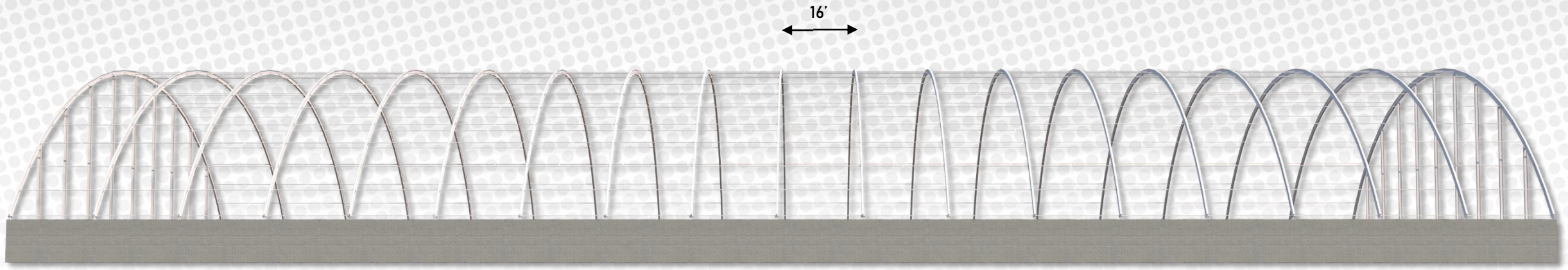
- BEAM C
- NORMALLY APPLIED FOR BUILDINGS BETWEEN 48 m TO 60 m
- 190 KM/H
- 200 KG/M2

INTERCOSTAL DISTANCE



- INTERCOSTAL DISTANCE CAN BE ADJUSTED BETWEEN OUR PREDESIGN XX OR YY ELEMENT.
- INFORMATION WILL BE DETERMINED BY BSS ENGINERINEERING BASED ON THE DESIGN CRITERIA REQUIRED AND SOIL CONDITIONS

INTERCOSTAL DISTANCE



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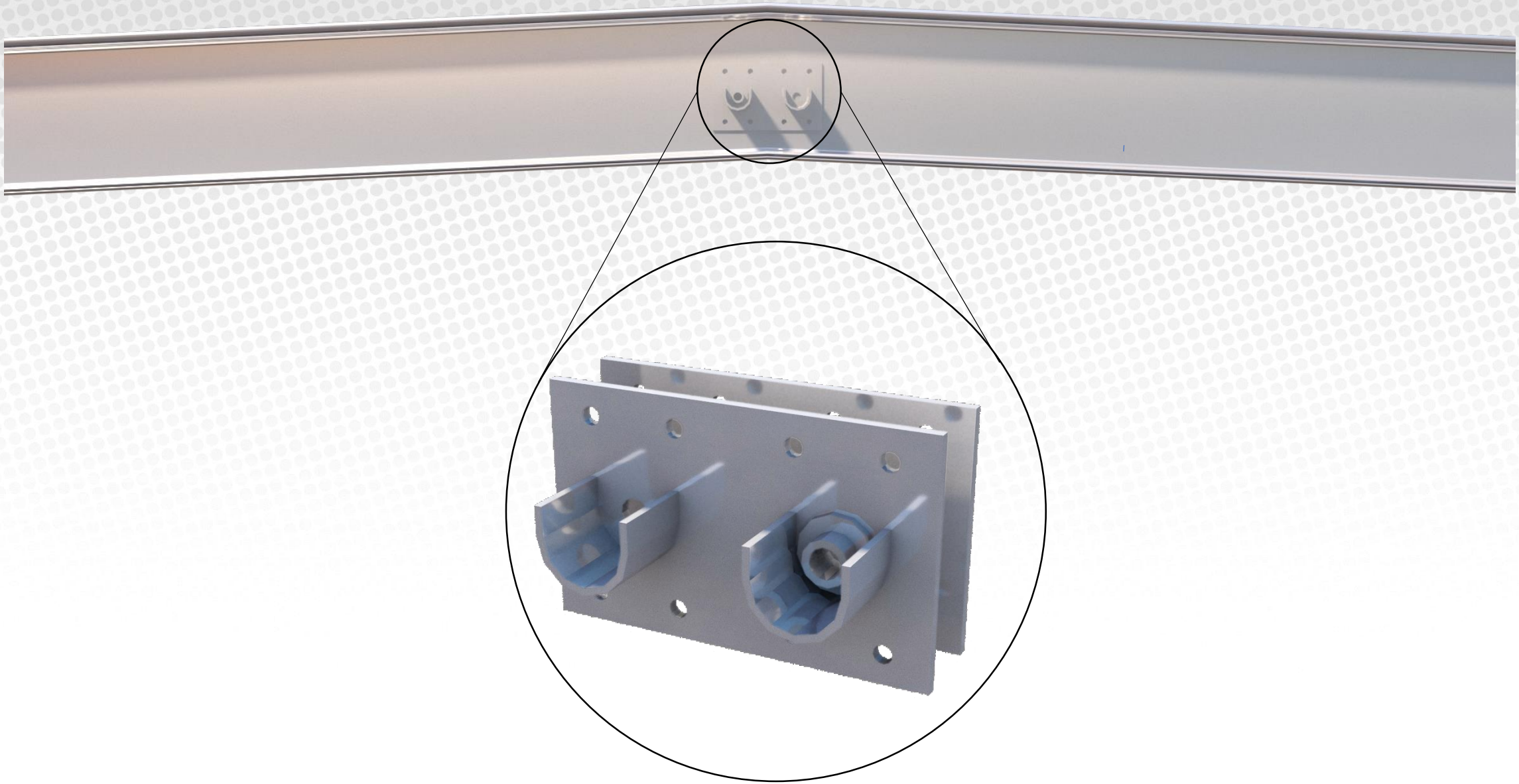
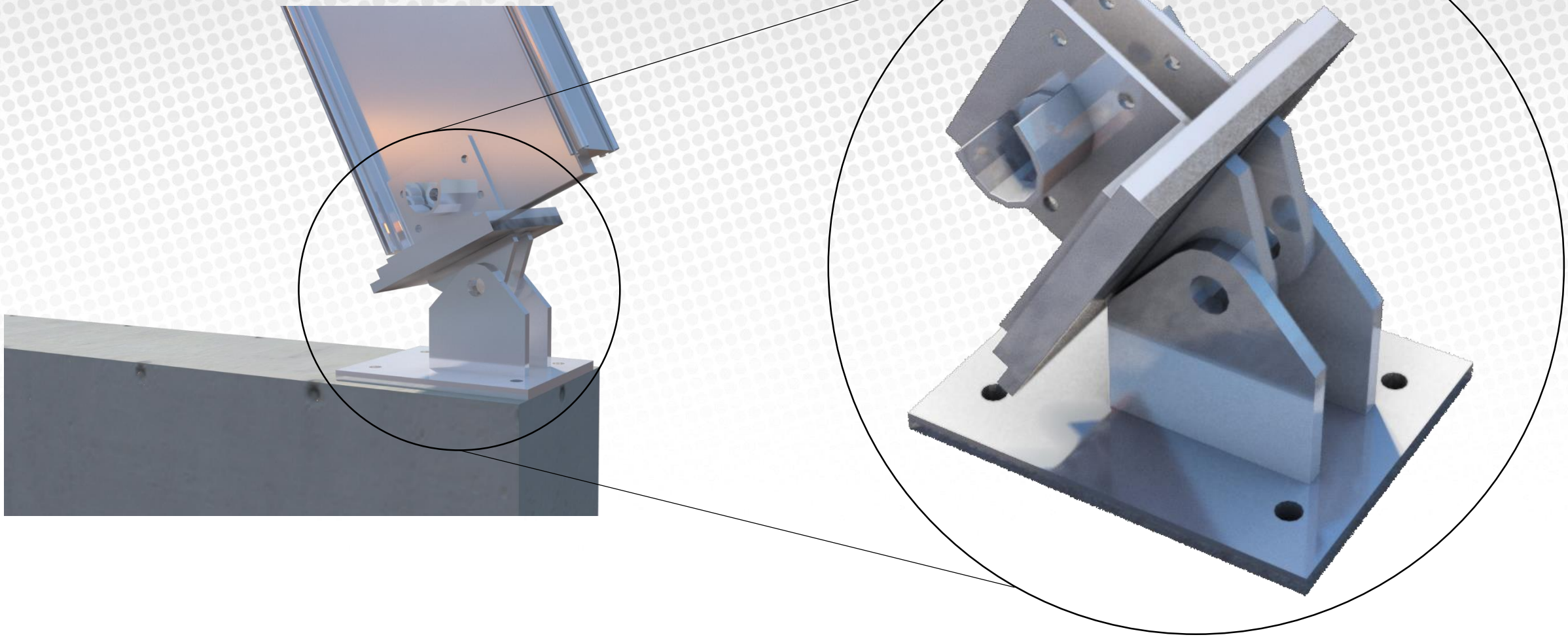
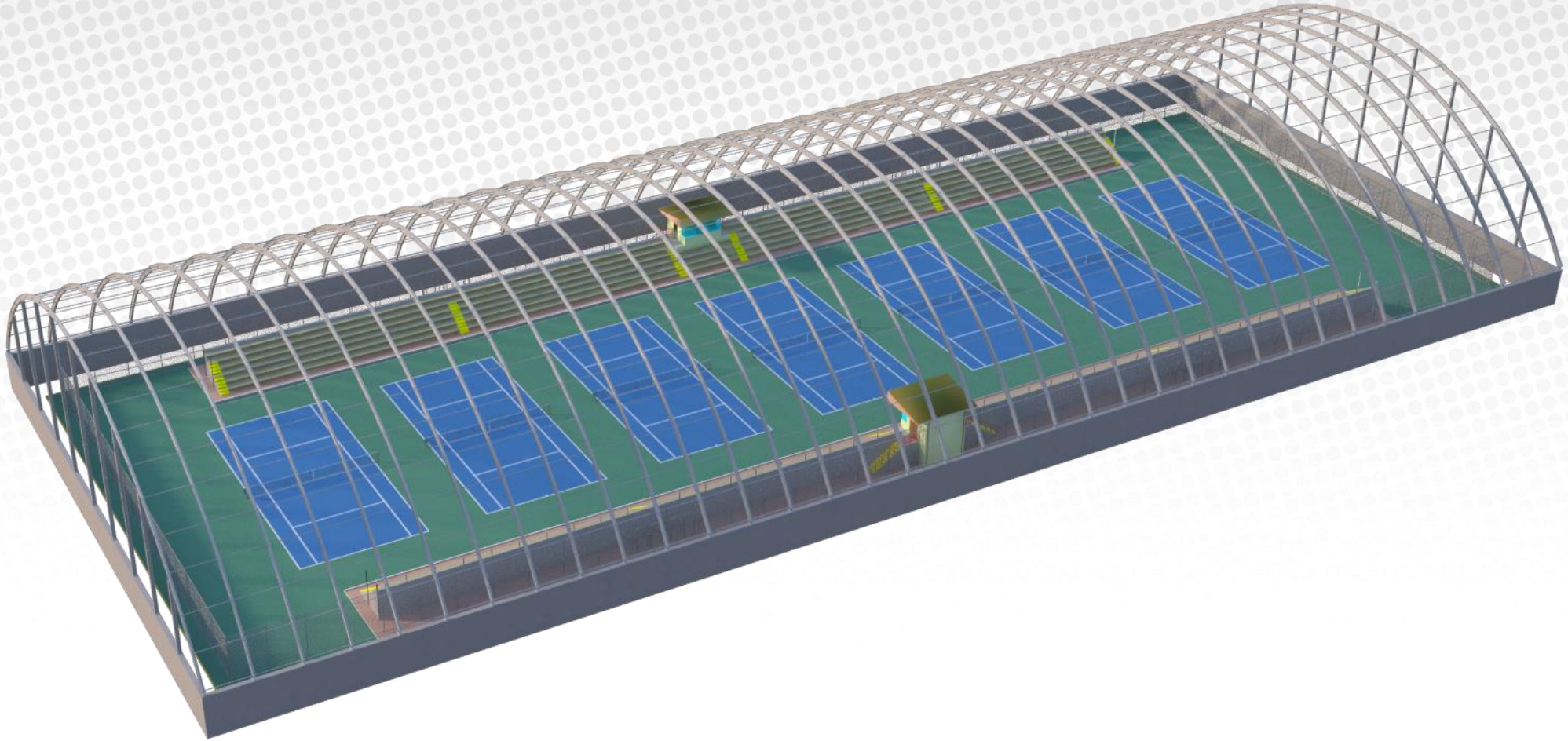
BEAM CONECTION



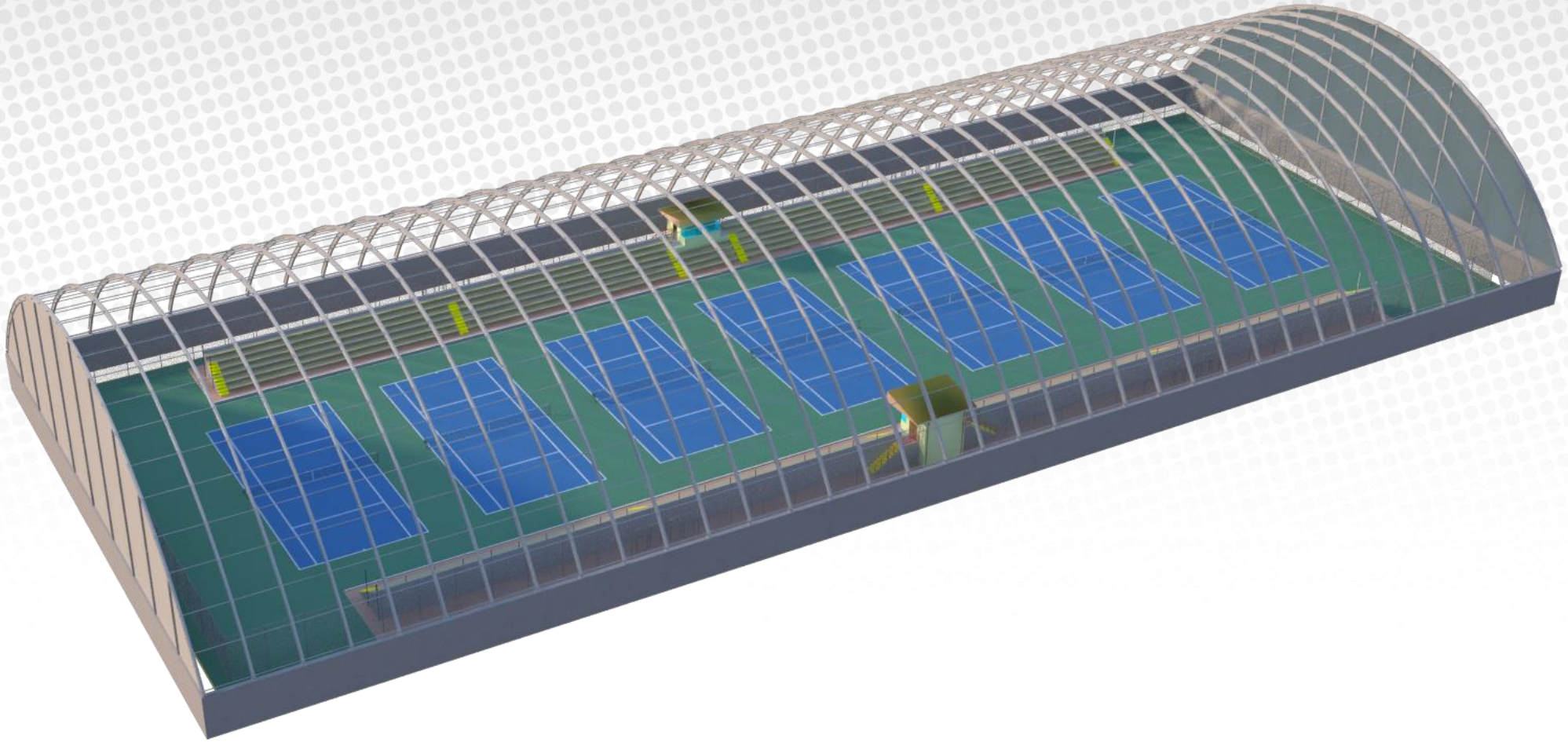
BEAM CONECTION TO WALL



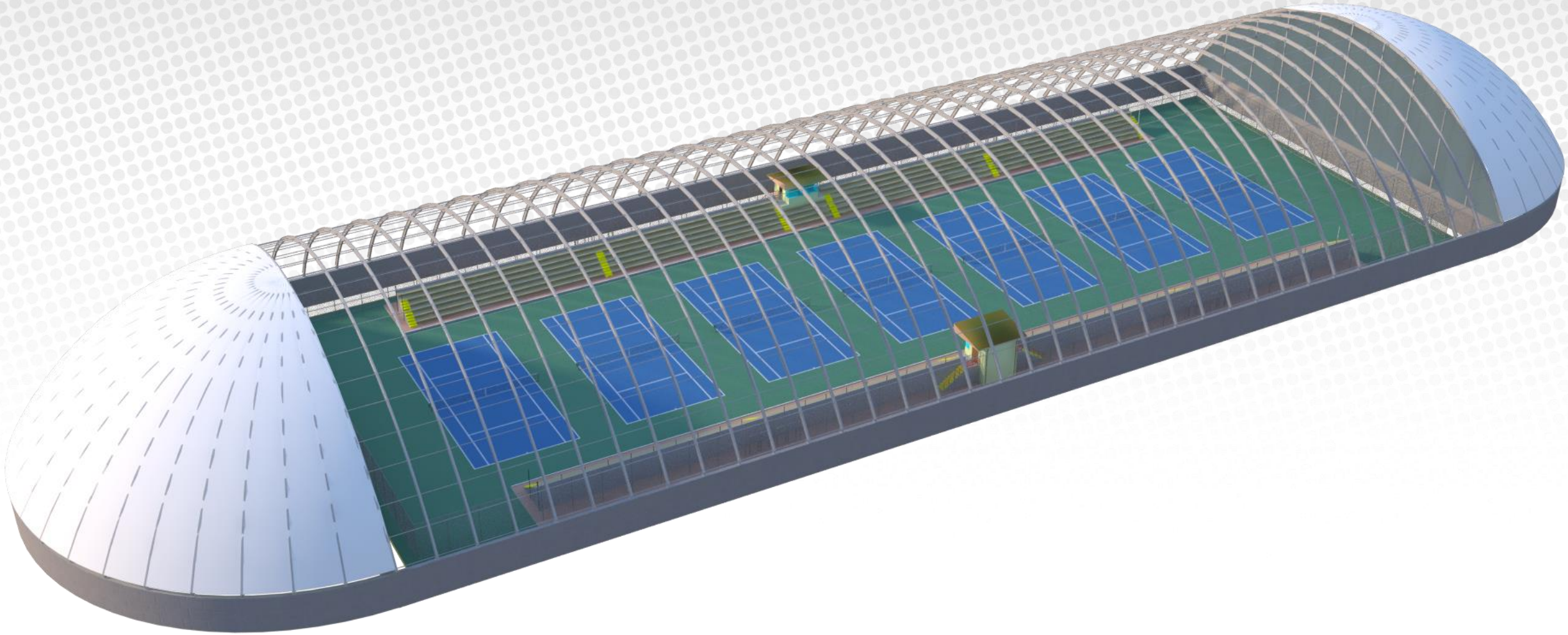
ENDWALL TYPES



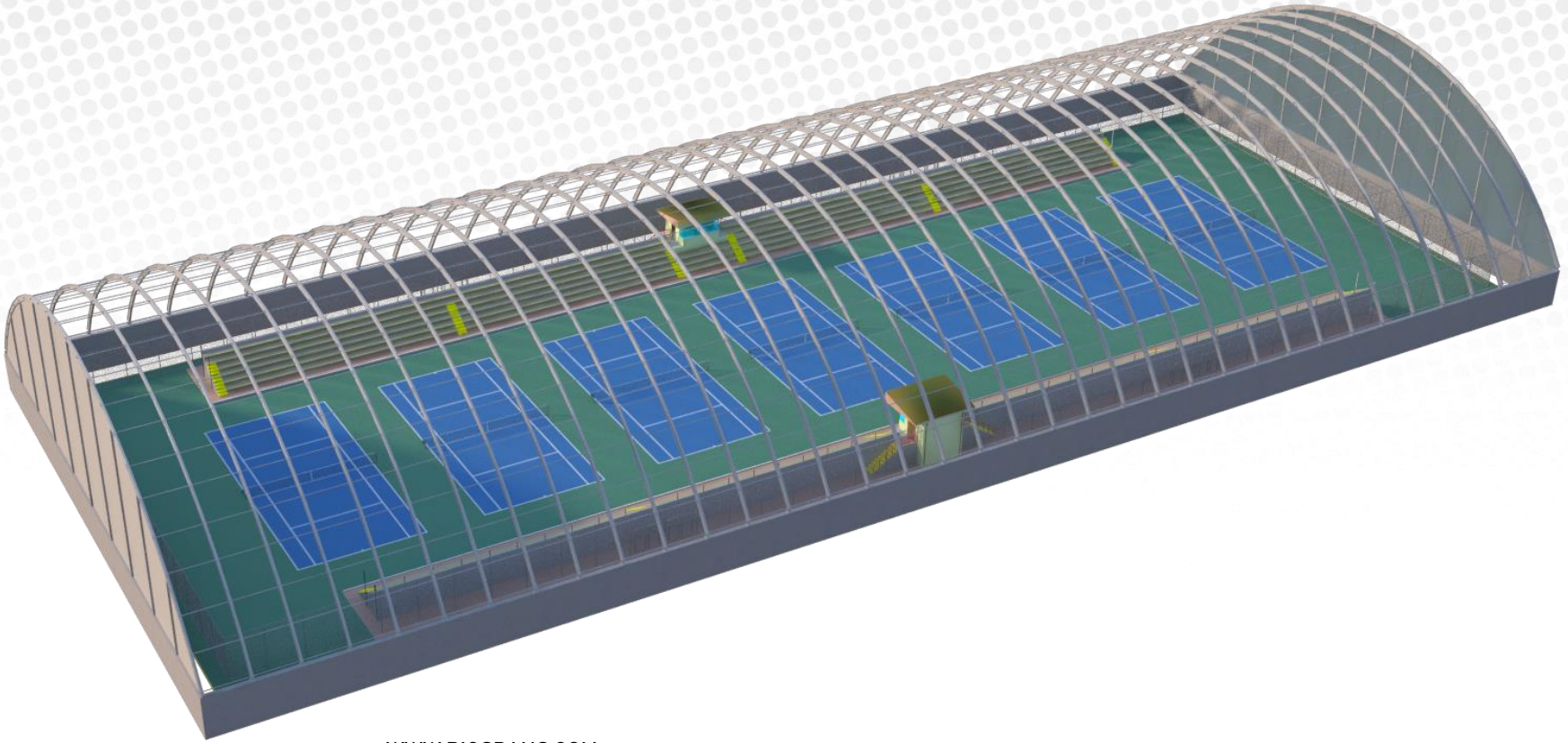
FLAT - ENDWALL



ROUND - ENDWALL



FABRIC MATERIALS



TRANSLUCENT PVC

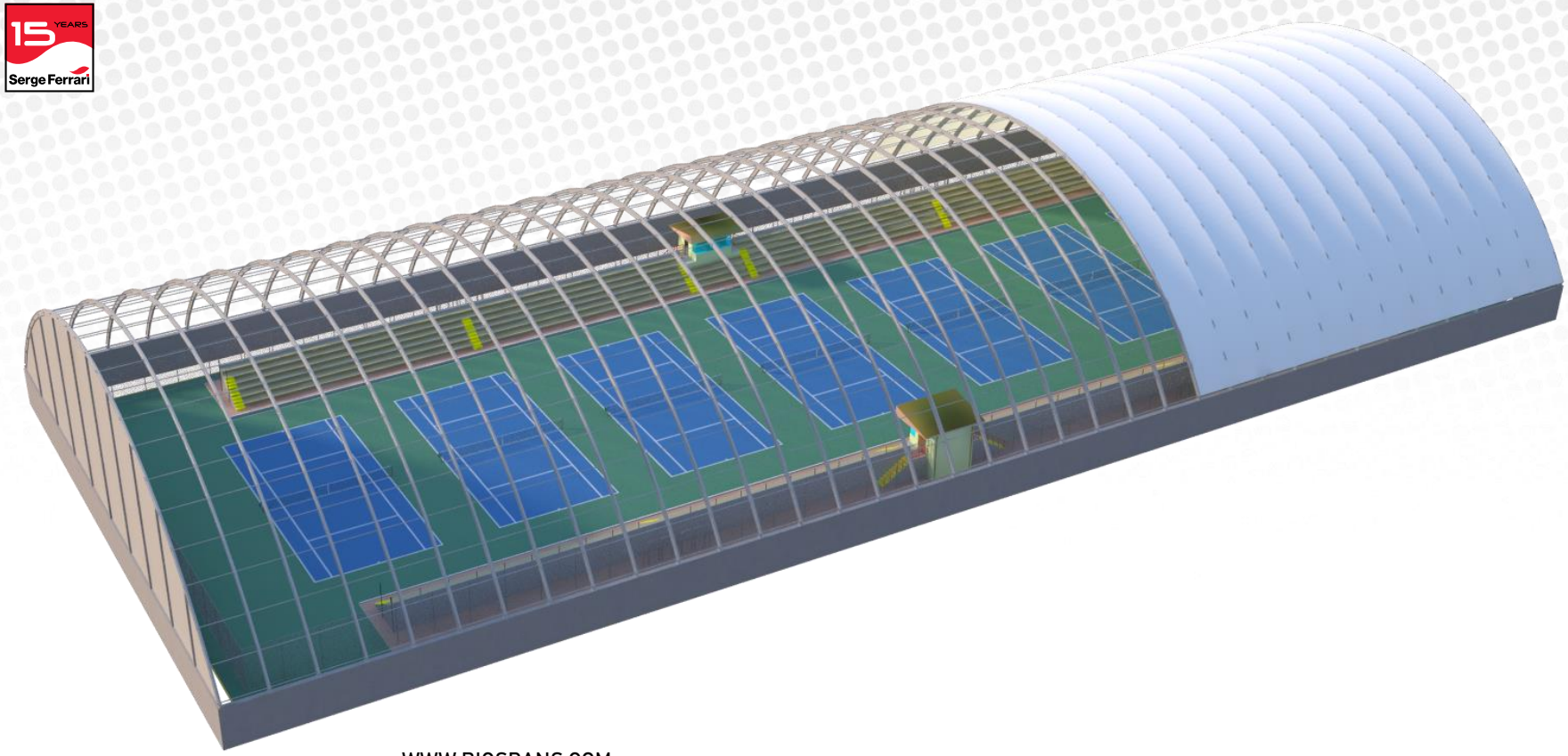
BIG SPAN STRUCTURES

Technical properties	Précontraint 1002 S2	Précontraint 1002 Fluotop T2	Standards
Application	Mobile or permanent structures	Static and permanent structures	
Surface treatment (top/back)	PVDF / PVDF	HIGH CONCENTRATION PVDF / PVDF	
Making up	Weldable	Weldable after top surface abrasion	
Yarn	PES HT 1100 Dtex	PES HT 1100 Dtex	
Weight	1050 g/sqm • 31 oz/sqyd	1050 g/sqm • 31 oz/sqyd	en ISO 2286-2
total thickness	0.78 mm	0.78 mm	
Width	180 cm • 70.86 in	178 cm • 70.08 in	(+1mm /-1mm)
tensile strength (warp/weft)	420/400 dan/5cm 480/450 Lbs	420/400 dan/5cm 480/450 Lbs	en ISO 1421 ASTM D 751-00 Cut Strip
tear resistance (warp/weft)	55/50 dan 105/100 Lbs/in	55/50 dan 105/100 Lbs/in	Din 53.363 ASTM D 751-00 trapezoid
Adhesion	12 dan/5cm	12 dan/5cm	en ISO 2411
Flame retardancy			
euroclass	**B-s2,d0**/en 1350-1	**B-s2,d0**/en 1350-1	
Rating	**M2**/nFP 92-507 • **B1**/Din 4102-1 • BS 7837 • **Test2**/nFPA 701 • CSMFt19		
Guarantee*			

Longevity					
Coating thickness at the top of the yarns	350 microns		350 microns		
Varnish adhesion longevity	QUV A 4000 h	pass	QUV A 4000 h	pass	Scotch tape test
Micro organism resistance	Method A: degree 0, excellent		Method A: degree 0, excellent		en ISO 846-A
Solar optical values	ASHRAe	en 410	ASHRAe	en 410	
Solar transmittance (ts)	6%	5.5%	6%	6%	
Solar reflectance (Rs)	78%	81.5%	78%	82%	ASHRAe 74-1988
Solar Factor (g)	12%	9%	12%	9.5%	en 410
Visible light transmittance (tv)	--	4%	--	4.5%	
Visible light Reflectance (Rv)	--	91%	--	91.5%	
Visible light transmittance		8%		8.5%	nFP 38511 (diffus-diffus)
UV transmission	t-UV 0%		t-UV 0%		en 410
Global thermal conductivity**					
Vertical / Horizontal position	U= 5.6 / 6.4 W/sqm/°C		U= 5.6 / 6.4 W/sqm/°C		
Acoustic performance					
Weakening index	14dBA		14dBA		iSO 717-1

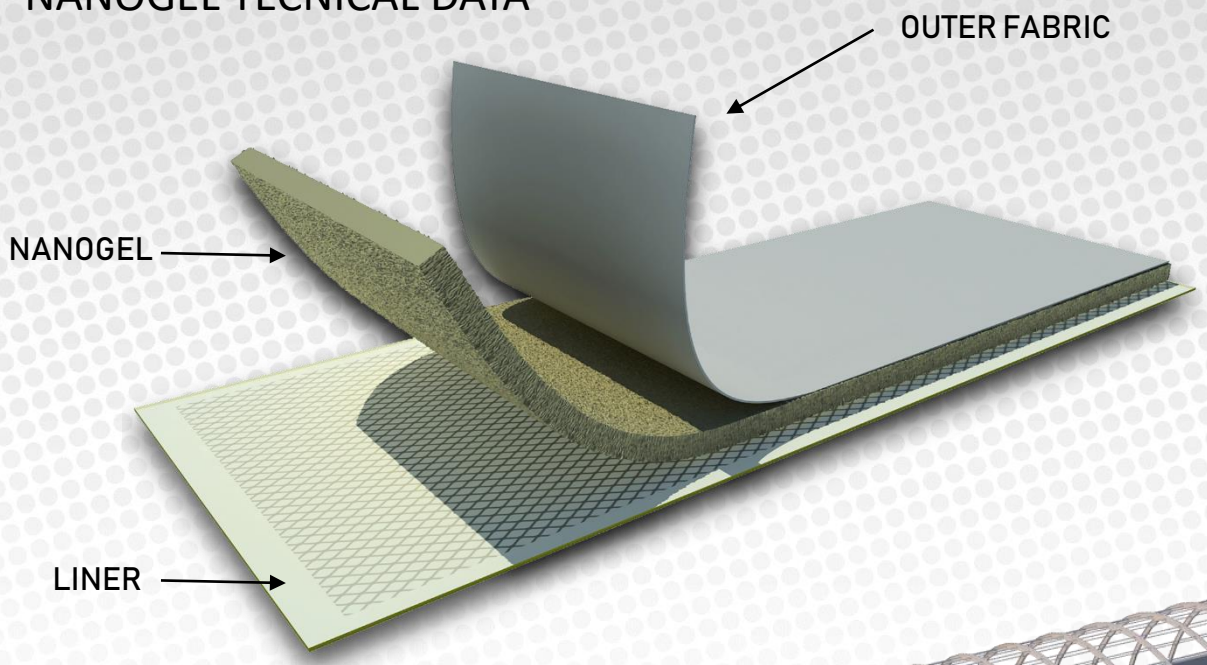
12 YEARS Serge Ferrari

15 YEARS Serge Ferrari



TRANSLUCENT PVC + NANOGEL

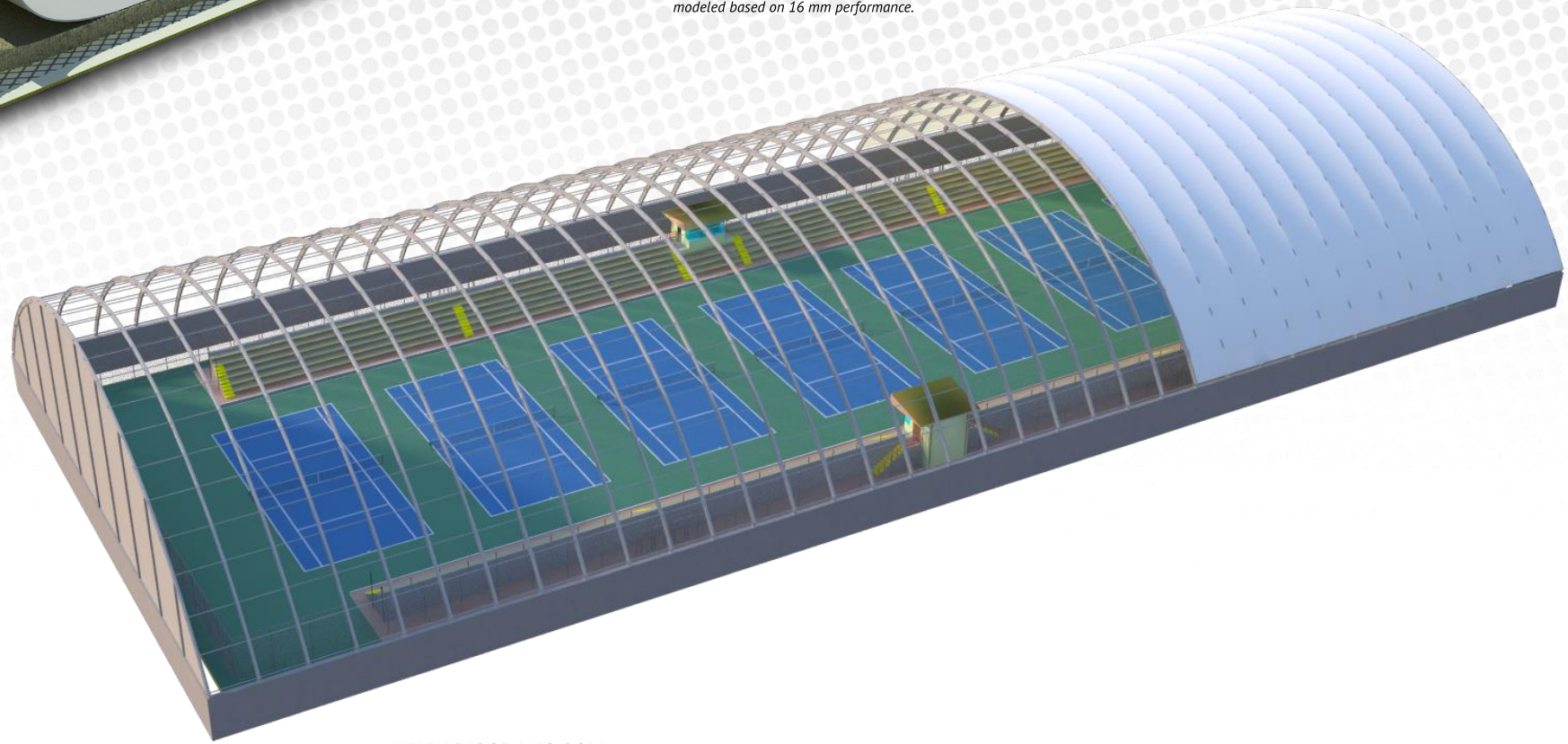
NANOGEL TECNICAL DATA



Composite Performance Properties

Property	Value	Test Method
Thickness	8 mm	– – –
Unit Weight	0.46 psf	ASTM D4851.88
R-Value	4.9	ASHRAE 90.1
Solar Heat Gain Coefficient	5.30 %	SHGC = T+(U/h)xA
Acoustical Absorption	0.55 Sabins/ft^2	ASTM C423*
Sound Transmission Class	18.0 dB	ASTM E90*
Visual Transmission	4.3 %	ASTM E424
Fire Performance	Class A	ASTM E108

** Values for 16 mm acoustical absorption and sound transmission class were measured in a laboratory. The 8 mm and 24 mm values were modeled based on 16 mm performance.*



OPAQUE PVC

BIG SPAN STRUCTURES

Technical properties	Précontraint 1002 S2	Précontraint 1002 Fluotop T2	Standards
Application	Mobile or permanent structures	Static and permanent structures	
Surface treatment (top/back)	PVDF / PVDF	HiGH COnCentRAtiOn PVDF / PVDF	
Making up	Weldable	Weldable after top surface abrasion	
Yarn	PeS Ht 1100 Dtex	PeS Ht 1100 Dtex	
Weight	1050 g/sqm • 31 oz/sqyd	1050 g/sqm • 31 oz/sqyd	en iSO 2286-2
total thickness	0.78 mm	0.78 mm	
Width	180 cm • 70.86 in	178 cm • 70.08 in	(+1mm /-1mm)
tensile strength (warp/weft)	420/400 dan/5cm 480/450 Lbs	420/400 dan/5cm 480/450 Lbs	en iSO 1421 AStM D 751-00 Cut Strip
tear resistance (warp/weft)	55/50 dan 105/100 Lbs/in	55/50 dan 105/100 Lbs/in	Din 53.363 AStM D 751-00 trapezoid
Adhesion	12 dan/5cm	12 dan/5cm	en iSO 2411
Flame retardancy			
euroclass	**B-s2,d0**/en 1350-1	**B-s2,d0**/en 1350-1	
Rating	**M2**/nFP 92-507 • **B1**/Din 4102-1 • BS 7837 • **Test2**/nFPA 701 • CSMFt19		
Guarantee*			

Longevity					
Coating thickness at the top of the yarns	350 microns		350 microns		
Varnish adhesion longevity	QUV A 4000 h	pass	QUV A 4000 h	pass	Scotch tape test
Micro organism resistance	Method A: degree 0, excellent		Method A: degree 0, excellent		en iSO 846-A
Solar optical values	ASHRAe	en 410	ASHRAe	en 410	
Solar transmittance (ts)	6%	5.5%	6%	6%	
Solar reflectance (Rs)	78%	81.5%	78%	82%	ASHRAe 74-1988
Solar Factor (g)	12%	9%	12%	9.5%	en 410
Visible light transmittance (tv)	--	4%	--	4.5%	
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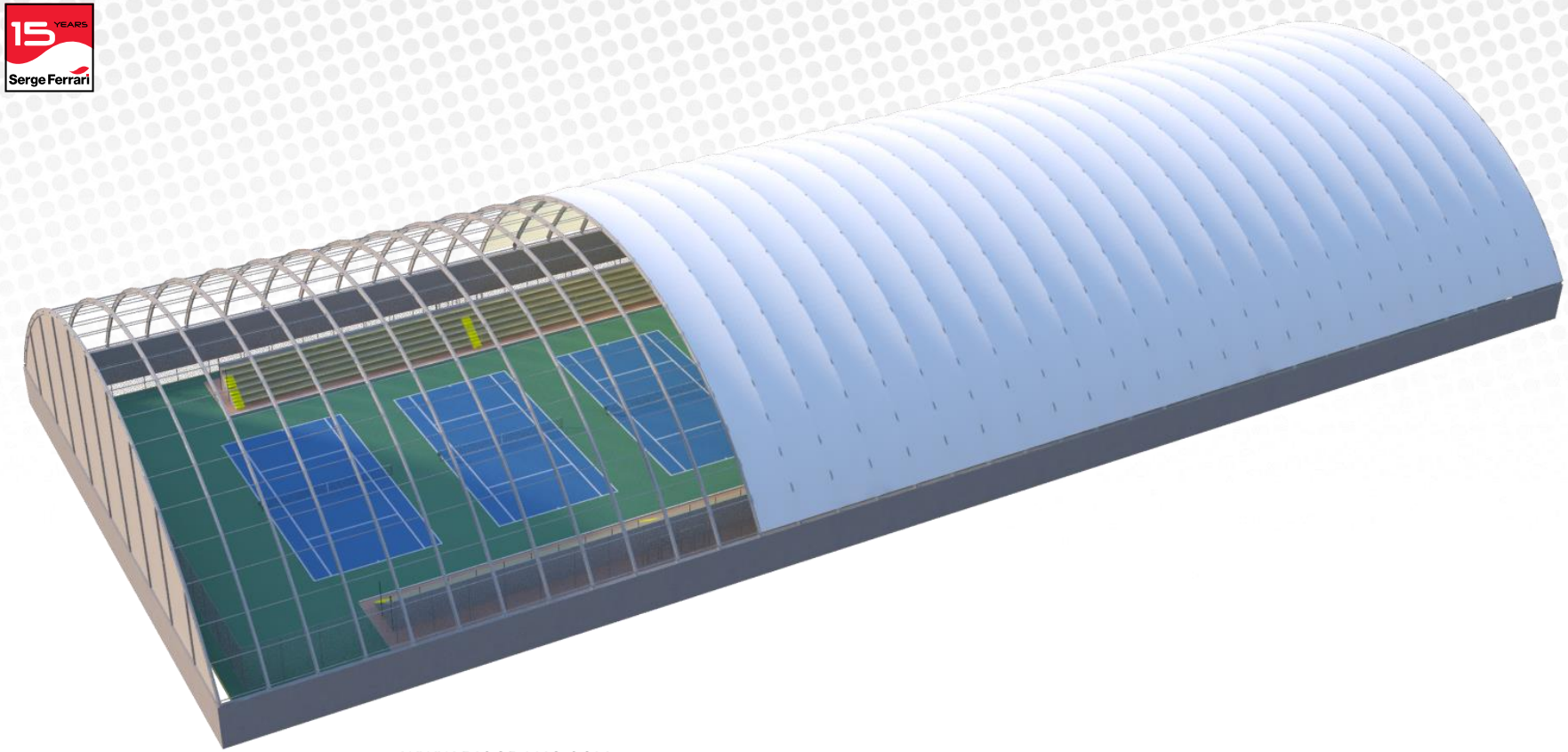
UV transmission	t-UV 0%		t-UV 0%		en 410
Global thermal conductivity**					
Vertical / Horizontal position	U= 5.6 / 6.4 W/sqm/°C		U= 5.6 / 6.4 W/sqm/°C		
Acoustic performance					
Weakening index	14dBA		14dBA		iSO 717-1

12 YEARS Serge Ferrari

15 YEARS Serge Ferrari



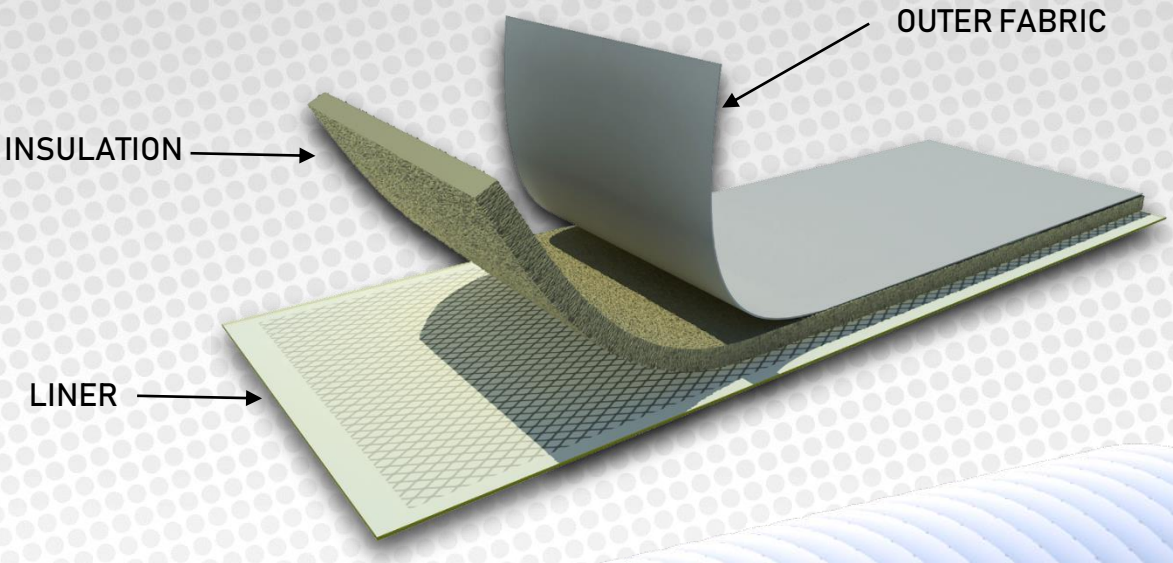
OPAQUE PVC + INSULATION

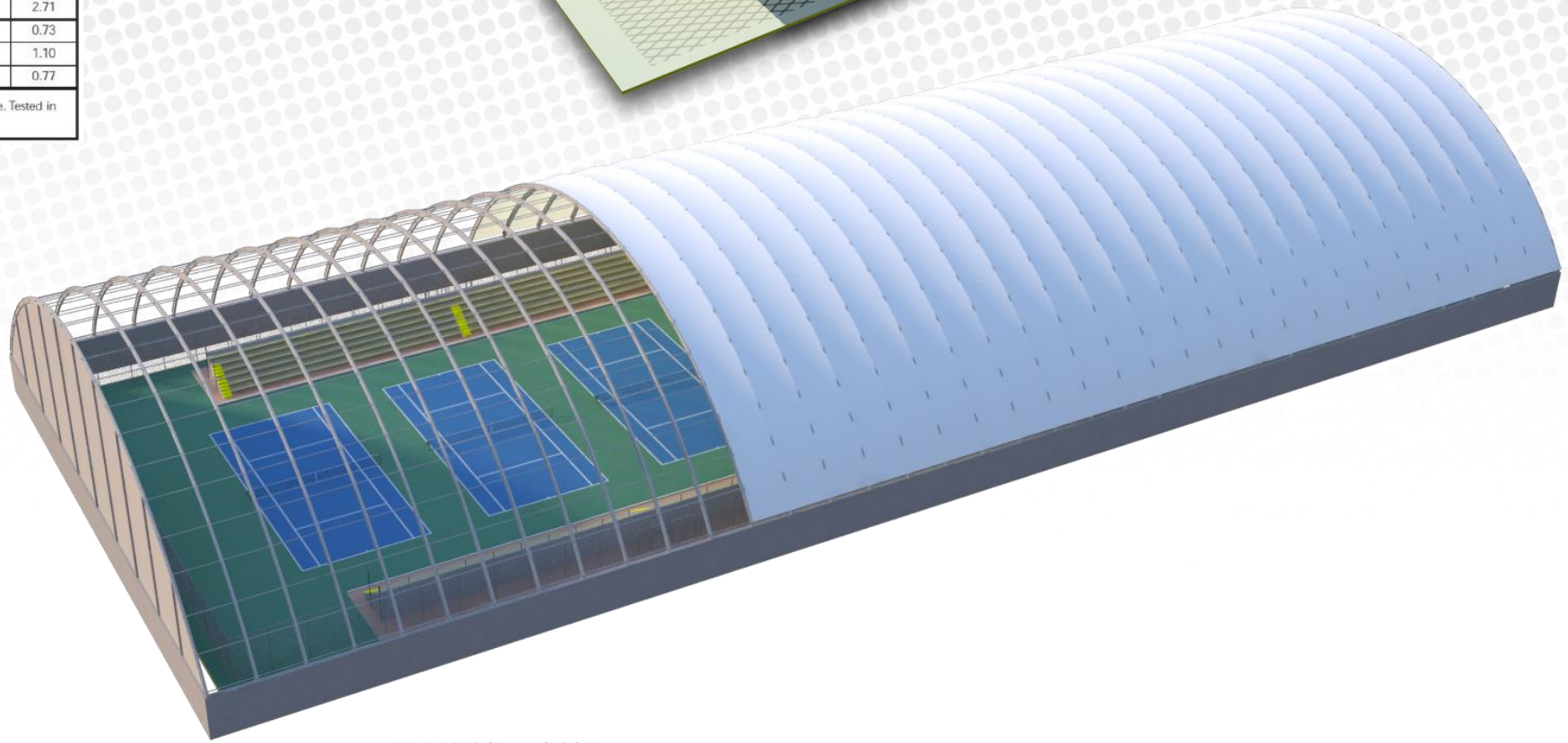
THERMAL PERFORMANCE										
Type	Density		Thickness		K-Value		C-Value		R-Value	
	pcf	kg/m³	in.	mm	Btu•in / h•ft.²•°F	W / m²•°C	Btu / h•ft.²•°F	W / m²•°C	R	RSI
501	0.60	9.6	1½	38	0.32	0.046	0.21	1.21	4.7	0.83
			2	51			0.16	0.91	6.3	1.10
			3	76			0.11	0.61	9.4	1.65
			4	102			0.08	0.45	12.5	2.20
751	0.75	12.0	1½	38	0.29	0.042	0.19	1.10	5.2	0.91
			2	51			0.15	0.82	6.9	1.21
			3	76			0.10	0.55	10.3	1.82
			4	102			0.07	0.41	13.8	2.43
1001	1.00	16.0	1	25	0.26	0.037	0.26	1.48	3.8	0.68
			1½	38			0.17	0.98	5.8	1.02
			2	51			0.13	0.74	7.7	1.35
			3	76			0.09	0.49	11.5	2.03
			4	102			0.07	0.37	15.4	2.71
1501	1.50	24.0	1	25	0.24	0.035	0.24	1.36	4.2	0.73
			1½	38			0.16	0.91	6.3	1.10
2001	2.00	32.0	1	25	0.23	0.033	0.23	1.31	4.3	0.77

Thermal conductance (C) and resistance (R) values are derived from the material thermal conductivity (k) value. Tested in accordance with ASTM C 518 and/or ASTM C 177 at 75° F (24° C) mean temperature.

ACOUSTICAL PERFORMANCE									
Product			Absorption Coefficients @ Octave Band Center Frequencies (Hz)						
Type	Thickness in.	Thickness mm	125	250	500	1000	2000	4000	NRC
501	1½	38	0.21	0.49	0.71	0.79	0.80	0.80	0.70
	2	51	0.23	0.62	0.84	0.87	0.85	0.87	0.80
	4	102	0.51	0.92	1.01	0.93	0.95	1.06	0.95
751	1	25	0.14	0.33	0.64	0.77	0.83	0.86	0.65
	1½	38	0.17	0.45	0.78	0.84	0.92	0.93	0.75
	3	76	0.36	0.82	1.02	1.00	0.96	1.01	0.95
1001	1½	38	0.21	0.53	0.79	0.85	0.85	0.87	0.75
	2	51	0.28	0.69	0.94	0.91	0.90	0.93	0.85

Sound absorption tested in accordance with ASTM C423 using Type A mounting per ASTM E795





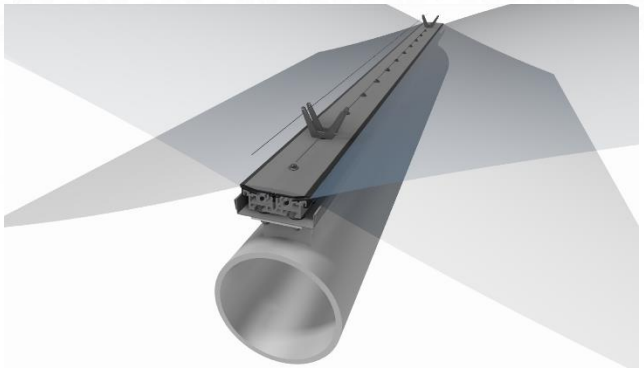
TRANSPARENT (ETFE)

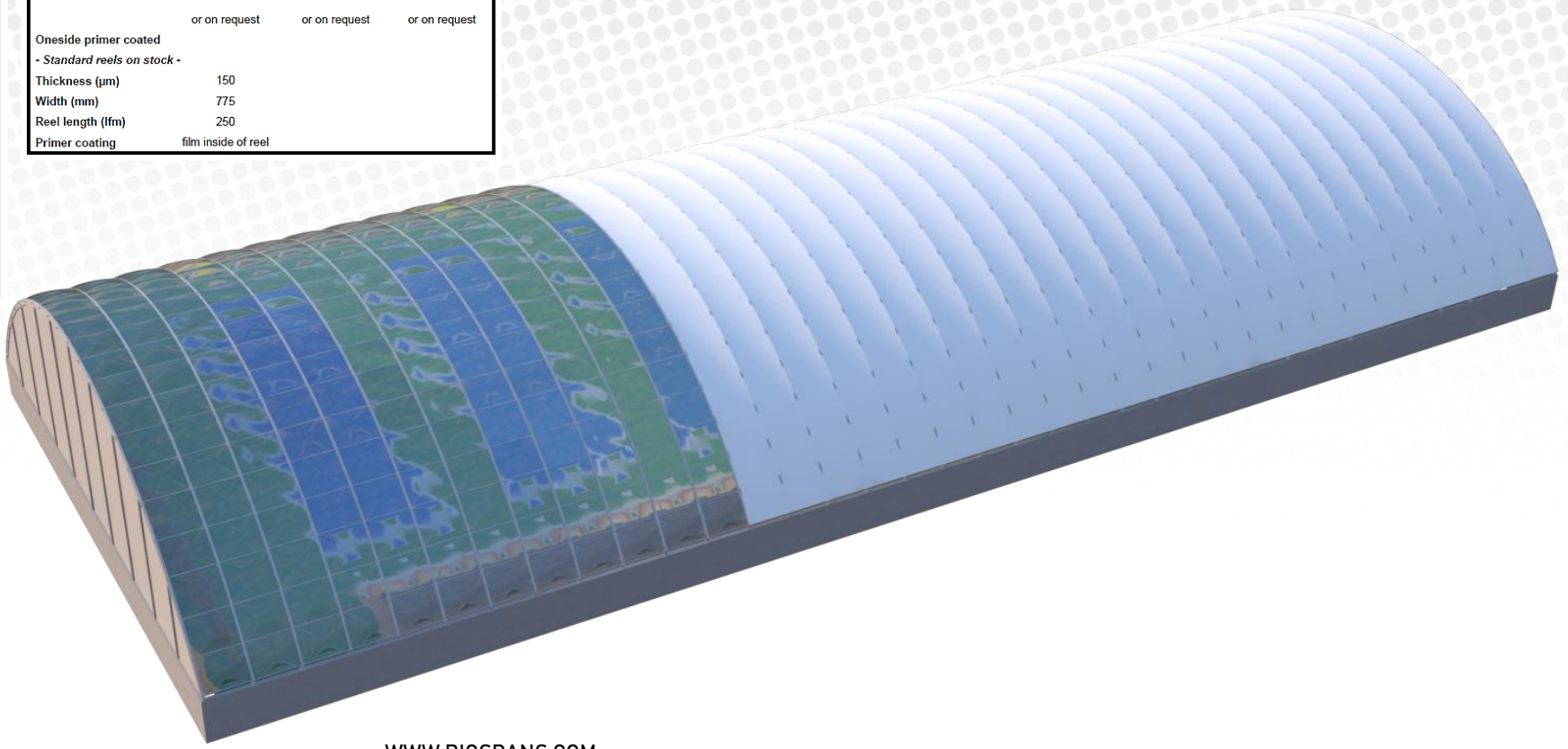
Properties		Unit	Test method	Typical values		
Film typ				6235	6235 J	200
Thickness		µm	DIN 53370	25-250	25-250	12-50
Tolerance		µm	DIN 53370	≤ 50µm: ±3µm; >50µm: ±5% vom Sollwert		
Tenile strength						
	longitudinal	N/mm²	DIN EN ISO	> 40	> 40	> 40
	transversal	N/mm²	527-1	> 40	> 40	> 40
Elongation at break						
	longitudinal	%	DIN EN ISO	> 300	> 300	> 300
	transversal	%	527-1	> 300	> 300	> 300
Tensile at 10% elong.						
	longitudinal	N/mm²	DIN EN ISO	> 20	> 18	> 20
	transversal	N/mm²	527-1	> 20	> 18	> 20
Modulus in tension						
	longitudinal	N/mm²	DIN 53457	1000	800	1000
	transversal	N/mm²	DIN 53457 0,5% Sekante	1000	800	1000
Tear strength						
	longitudinal	N/mm²	DIN 53363	> 300	> 300	> 300
	transversal	N/mm²	on trapezium	> 300	> 300	> 300
Shrinkage						
	longitudinal	%	150°C/10 min.	0-5	0-5	0-5
	transversal	%	150°C/10 min.	0-5	0-5	0-5
Density		g/cm³	DIN 53479	1,75	1,75	1,75
Melt range		°C	DSC 16°K/min.	270 ± 10	260 ± 10	270 ± 10
Light transmission (total)		%	DIN 5036–Ulbricht sphere	> 90 % (1)		
Shore-D-hardness			DIN 53565	70	66	67
Oxygenindex		%	ASTM D 2863-70	> 30	> 30	> 30
Flame retardance			UL 94	V-0	V-0	V-0
			DIN 4102	B1 (2)	-	-
Weather stability			DSET- Laboratories Phoenix / Arizona	10 years outdoor weathering without changing of properties	-	-
Thermal service range		°C	ASTM-D-2863	- 200°C bis + 150°C		
			DIN 53207			

(1) Measured on 200 µm film

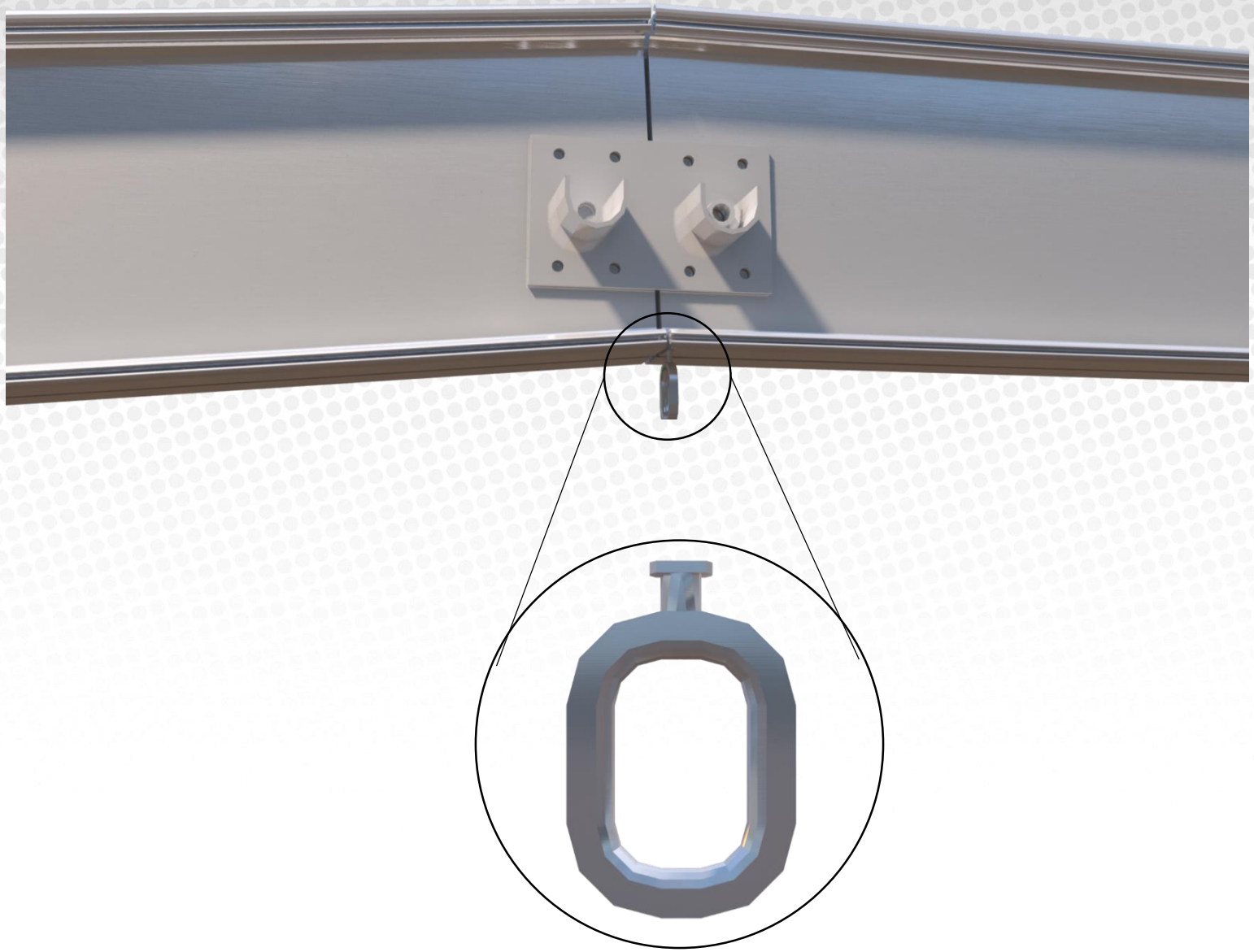
(2) Awarded with „Allgemeines bauaufsichtliches Prüfzeugnis“ as a flame retardant building material form Ott-Graf- Institut, Universität Stuttgart

Typ	6235	6235 J	200
Thickness range (µm)	25 – 250	25 – 250	12 – 50
Standard width (mm)	1300 / 1550 max	1300 / 1550 max.	1300 / 1550 max. < 20 µm: max. 1500!
Min. width for slitting (mm)	10	On request!	
Standard-Reel length (lfm)			
Thickness 12 µm	/	/	3000
Thickness 15 µm	/	/	3000
Thickness 20 µm	/	/	1500/3000
Thickness 25 µm	1000	1000	1000
Thickness 50 µm	750	750	750
Thickness 100 µm	500	500	/
Thickness 150 µm	250	250	/
Thickness 200 µm	200	200	/
Thickness 250 µm	200	200	/
Core inside diameter Ø	152	152	152
Standard colours	natural, white, blue	natural	natural, blue
	or on request	or on request	or on request
Oneside primer coated			
- Standard reels on stock -			
Thickness (µm)	150		
Width (mm)	775		
Reel length (lfm)	250		
Primer coating	film inside of reel		





ACCESSORIES (HANGER)



ACCESSORIES (LIGHTING)

ACCESSORIES (INDUSTRIAL FAN)

ACCESSORIES (DOORS & WINDOWS)

BIG SPAN
STRUCTURES