



SILKARSTONE

# Laminated Stone Panels

WHEN WEIGHT MATTERS



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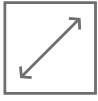
# LSP

LAMINATED STONE PANEL is an innovative solution for creating dramatic, large format natural stone installations in an efficient manner. Using advanced technology, stone slabs are cut into incredibly thin sheets and laminated onto lightweight materials. The resulting product offers a more sustainable, custom approach to design, while maintaining a lower price point.



# BENEFITS OF LAMINATED STONE PANEL

## BEST FOR



### EXTRA-LARGE PANELS

*Large format sizes available up to 180x300 cm*



### HIGH IMPACT RESISTANCE

*High load-bearing capabilities.*



### LIGHTWEIGHT

*From 15 kg/m<sup>2</sup>*

## REDUCES



### INSTALLATION TIME

*Easy handling and prefabrication possibility allows faster installation/fixing times.*



### ON-SITE WASTAGE

*Less wastage due to its strong structure during installation.*



### TRANSPORTATION COST

*Up to twice as much material in each shipment is possible.*

## FURTHERMORE



### VARIETY OF FINISHES

*Various stone surface finishes such as polished, honed, brushed.*



### TOTALLY CUSTOMIZABLE

*Choose your stone and backing; custom sizes and patterns available upon request.*



### SUSTAINABLE

*Energy savings due to reduced transportation and installation times. "Less material used"*



**AREAS OF USE**

Laminated Stone Panels can be utilized in the following applications: Surface coverings, aerospace manufacturing, furniture industry, decorative products, ship manufacturing, soffits and spherical surfaces, automotive industry.

  
**INTERIOR**  
*Is ideal interior wall claddings*

  
**WALL / FLOOR**  
*Is ideal for wall, floor and ceiling applications*

  
**WET AREAS**  
*Can be used in wet areas like showers.*



  
**DECORATION**  
*Can be used for meeting, dinner & coffee table tops.*

## COLOR OPTIONS

Customize your LAMINATED STONE PANEL with our large selection of premium natural stones.

Astra White

Astra White Venato

Athens Gray

Brown Queen

Café Latte Dark

Calacatta

Calacatta Helena

Carrara

Castano Brown

Coastal Gray

Crema Alexandra

Crema Cornucopia

Dark Olive

Emperador Dark

Ephesus Dune

Granville Beige

Lilac

Nero Marquina

New Luget

Oro Gray

Oro White

Savana Gray

Silver Gray

Silver Stone

Silver Wood

Terra Gray

Tundra Gray

Vega Light

# BACKING OPTIONS

There are five backing materials available; each offering unique benefits, making them appropriate for use in different applications:

**AL** Aluminium Honeycomb

**FG** 3D Fiberglass

**PR** Porcelain

**GLI & GLX** Glass

**X** Reinforced Slabs and Tiles



Lighter, Stronger, Thinner, Environmentally Friendly and Still Natural...

# LSP - AL

## ALUMINIUM HONEYCOMB

Aluminium honeycomb w/fiber skin\*  
Aluminium honeycomb w/aluminium skin\*

- Suitable for vertical (15+5 mm) interior & vertical (20+5 mm) exterior and horizontal interior applications
- 30% of the weight of 2 cm marble panel
- 60 times more impact resistance vs 2 cm marble panel
- 50% reduced installation time
- Available in various surface finishes (polished, honed, brushed, sandblasted)
- Available in extra-large panel sizes due to light weight
- Suitable for use in wet areas

Most Common Applications:

- Building Construction Industry
- Yacht Building Industry (Special Honeycomb Material)
- Furniture industry
- Aerospace Industry

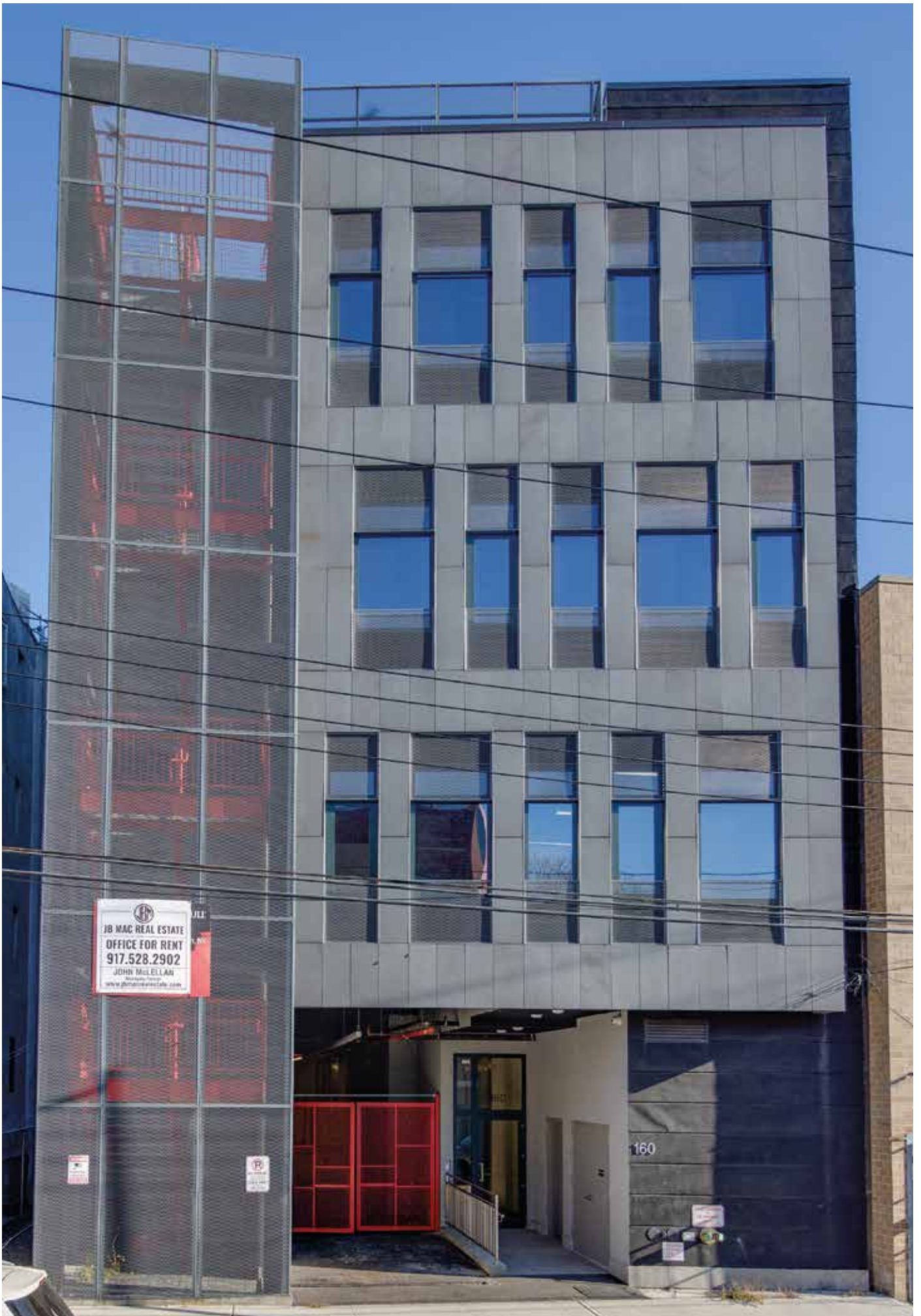
Installation: Adhesive, mechanical anchoring.

\* Silkar reserves the right to supply with one of them depending on the project.

\* It is recommended to close the sides with an appropriate filler for floor and wet area applications.







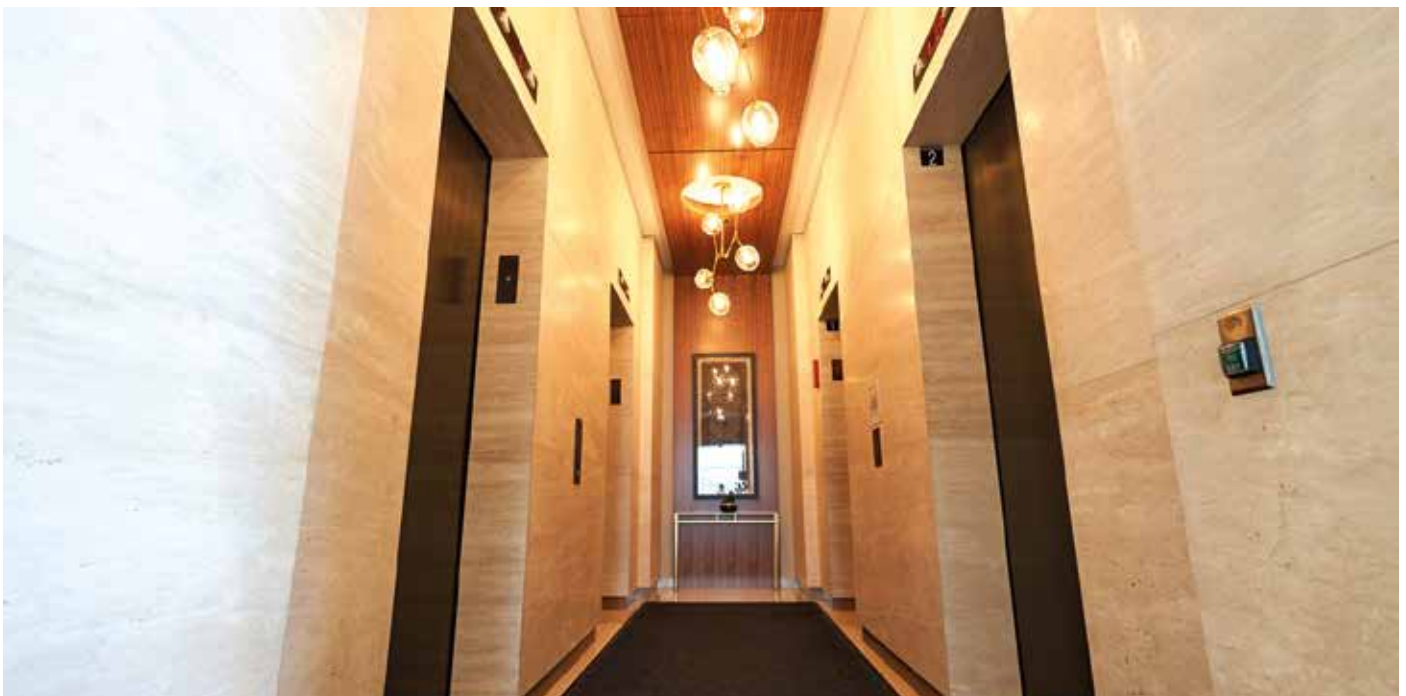
160 Dikeman Street, Brooklyn - New York

## LSP Aluminium Honeycomb (AL) w/Aluminium Skin Technical Information

	LSP AL w/Aluminium Skin		Test Standards
Max Panel Dimension (mm)	1800 x 3000	1800 x 3000	-
Standard Slab Size (mm)	1500 x 2500	1500 x 2500	-
Panel Thickness (mm)	20	25	-
Outer Surface Natural Stone Thickness (mm)	5	5	-
Core Panel Thickness (mm)	15	20	-
Weight (kg/m <sup>2</sup> )	18	19	-
Performance Properties	Not Flexible	Not Flexible	-
Place of Use	Interiors (Panel Thickness: 20mm) - Bathroom floor & wall - Residential floor & wall - Commercial wall  Exteriors (Panel Thickness: 25mm) - Façade Applications		-
Finish	Polished / Honed / Brushed		-
Installation System	Mechanical Fixing & Adhesive		-
Fire Test for Exterior Wall Assemblies	Pass	Pass	NFPA 285
Reaction to Fire	A2-s1, d0	A2-s1, d0	EN 13501
Determination of tensile adhesion Strength for Initial Adhesive (N/mm <sup>2</sup> )	0.8	0.8	EN 1348
Determination of tensile adhesion Strength for Heat Ageing Adhesive (N/mm <sup>2</sup> )	0.8	0.8	EN 1348
Determination of tensile adhesion Strength for Freeze-thaw Adhesive (N/mm <sup>2</sup> )	0.7	0.7	EN 1348
Resistance to Wind Load (0-4 kPa), Displacement (mm)	Permanent Deformation: 3.25 Displacement: 0.34	Permanent Deformation: 3.25 Displacement: 0.34	EN 12179
Frost Resistance (MPa)	4.17 ± 0.31	4.17 ± 0.31	EN 12371
Resistance to Ageing by SO <sub>2</sub> Action in the Presence of Humidity%	0.75 ± 0.25	0.75 ± 0.25	EN 13919
Resistance to Ageing by Thermal Shock (MPa)	Average mass loss: 0.02 % Flexural Strength Difference: -1.53	Average mass loss: 0.02 % Flexural Strength Difference: -1.53	EN 14066
Resistance to Ageing by Salt Mist %	0.24±0.05	0.24±0.05	EN 14147
Flexural Strength (MPa)	28.76	28.76	EN 12372
Rupture Energy (Joule)	4.2± 0.16	4.2± 0.16	EN 14158
Impact Resistance	E 5 ( 950 mm; 475 J )	E 5 (950 mm; 475 J)	EN 14019

## LSP Aluminium Honeycomb (AL) w/Fiber Skin Technical Information

	LSP AL w/Fiber Skin	Test Standards
Max Panel Dimension (mm)	1800 x 3000	-
Standard Slab Size (mm)	1500 x 2500	-
Panel Thickness (mm)	20	-
Outer Surface Natural Stone Thickness (mm)	5	-
Core Panel Thickness	15	-
Weight (kg/m <sup>2</sup> )	16	-
Performance Properties	Not Flexible	-
Place of Use	Interiors - Bathroom floor & wall - Residential floor & wall - Commercial wall	-
Finish	Polished / Honed / Brushed	-
Installation System	Adhesion (Silicone / Epoxy)	-
Reaction to fire	A2-s1, d0	EN 13501
Reaction to fire	Class A	ASTM E 84
Determination of Tensile Adhesion Strength for Adhesive (N/mm <sup>2</sup> )	>1	EN 12004
Impact Resistance	Class 1 – No Damage	ISO 7892



# LSP - FG

## 3D FIBERGLASS

- Interior Cladding (walls only)
- 30% of the weight of 2 cm marble panel
- 60 times more impact resistance vs 2 cm marble panel
- 50% reduced installation time
- Available in various surface finishes (polished, honed, brushed, sandblasted)
- Available in extra-large panel sizes due to light weight
- Suitable for use in wet areas (shower walls)

Most Common Applications:

- Building Construction Industry
- Furniture industry
- Aerospace Industry

Installation: Two component epoxy based matching colored adhesive or polyurethane based strong silicone adhesive (spot application) adhesive to match the color of the stone



## LSP 3D Fiberglass (FG) Technical Information

	LSP FG	Test Standards
Max Panel Dimension (mm)	1800 x 3000	-
Standard Slab Size (mm)	1250 x 2500	-
Panel Thickness (mm)	20	-
Outer Surface Natural Stone Thickness (mm)	5	-
Core Panel Thickness	15	-
Weight (kg/m <sup>2</sup> )	16	-
Performance Properties	Flexible	-
Place of Use	Interiors - Bathroom wall Residential wall - Commercial wall Furniture	-
Finish	Polished / Honed / Brushed	-
Installation System	Adhesion (Silicone / Epoxy)	-
Reaction to Fire	B-s1, d0	EN 13501
Adhesion Tensile Strength (N/mm <sup>2</sup> ) Shear test	0.7	EN 12004
Adhesion Tensile Strength (N/mm <sup>2</sup> ) After Thermal Cycle	0.5	EN 12004
Adhesion Tensile Strength (N/mm <sup>2</sup> )	0.4	EN 12004

## LSP 3D Fiberglass (FG) Technical Information

	LSP FG	Test Standards
Max Panel Dimension (mm)	1250 x 2500	-
Max Cut to Size Panel (mm)	1250 x 2500	Contact the manufacturer
Panel Thickness (mm)	10	-
Outer Surface Natural Stone Thickness (mm)	5	-
Core Panel Thickness	5	-
Weight (kg/m <sup>2</sup> )	15	-
Performance Properties	Flexible	-
Place of Use	Interiors - Bathroom wall Residential wall - Commercial wall Furniture	-
Finish	Polished / Honed / Brushed	-
Installation System	Adhesion (Silicone / Epoxy)	-
Reaction to Fire	B-s1, d0	EN 13501
Adhesion Tensile Strength (N/mm <sup>2</sup> ) Shear Test	0.7	EN 12004
Adhesion Tensile Strength (N/mm <sup>2</sup> ) After Thermal Cycle	0.5	EN 12004
Adhesion Tensile Strength (N/mm <sup>2</sup> )	0.4	EN 12004

# LSP - PR

## PORCELAIN

- Interior Flooring and Walls and Furniture (dining table, coffee table, bench, shelf)
- 30% - 70% of the weight of 2 cm marble panel
- Available in various surface finishes (polished, honed, brushed, sandblasted, bush hammered)
- Suitable for use in wet areas (shower floors)

Most Common Applications:

- Furniture Industry
- Building Construction Industry

Installation: Adhesion (Cement / Silicone / Epoxy).



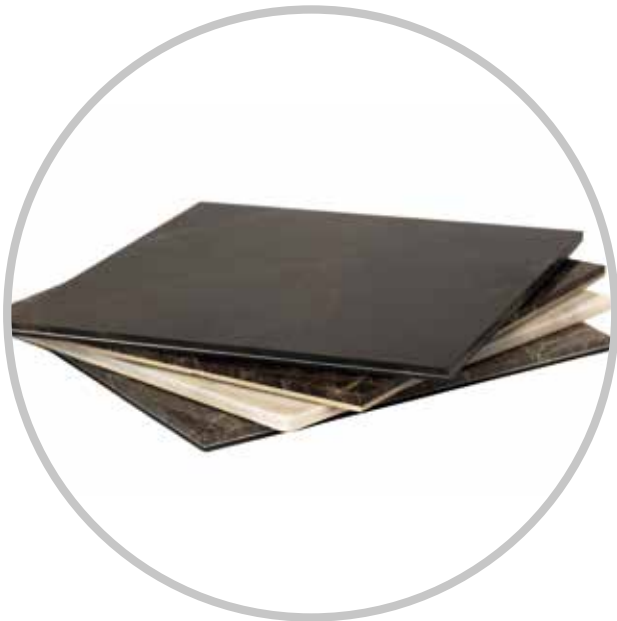


Silkar Showroom, Istanbul

## LSP Porcelain (PR) Technical Information

	LSP PR		Test Standards
Max Panel Dimension (mm)	1800 x 3000	1200 x 2400	-
Standard Slab Size (mm)	1200 x 2400	1200 x 2400	-
Panel Thickness (mm)	7	15	-
Outer Surface Natural Stone Thickness (mm)	3	5	-
Core Panel Thickness	4	10	-
Weight (kg/m <sup>2</sup> )	16.6	39	-
Performance Properties	Not Flexible	Not Flexible	-
Place of Use	Interiors - Bathroom floor & wall - Residential floor & wall - Commercial wall Exteriors - Façade Applications (max. 15 meters)		-
Finish	Polished / Honed / Brushed		-
Installation System	Adhesion (Cement / Silicone / Epoxy)		-
Reaction to Fire	B-s1, d0		EN 13501
Impact Resistance	-	Class 1 – No Damage	ISO 7892
Determination of Tensile Adhesion Strength for Adhesives (N/mm <sup>2</sup> )	>1	1.5	EN 12004

Light, Removable, Strong, Big



panel thickness **7** mm



furniture applications



wall applications





With the **Laminated Stone Panels**, you achieve yields never seen before in natural products in furniture design. Its great lightness and the ability to manufacture large formats allow the designer to create all kinds of furniture such as dining tables, coffee tables, shelves, desks, etc... also allows you create mechanized accessories such as drawers, cabinets, and doors in record time and with the minimum number of resources. Laminated Stone Panels are an ideal solution for fast and lightweight furniture!



# LSP - GLI & GLX

## GLASS

- Suitable for interior and backlit applications
- Translucent when used with white marbles and onyx
- Suitable for use in wet areas (shower separations)
- Increased durability compared to only glass or only stone applications
- Transforms non-translucent stones into translucent stone based on stone formation
- Available in various surface finishes (polished, honed)

Most Common Applications:  
Separation Walls, Shower Panels, Desks, Tables

Installation: Mechanical





## LSP Glass (GLI) & (GLX) Technical Information

	LSP GLI / LSP GLX	Test Standards
Max Panel Dimension (mm)	1800 x 3000	-
Panel Thickness (mm)	15*	-
Outer Surface Natural Stone Thickness (mm)	5	-
Core Panel Thickness	10	-
Weight (kg/m <sup>2</sup> )	38	-
Performance Properties	Not Flexible	-
Place of Use	Interiors** - Bathroom wall - Residential wall - Commercial wall  Interiors** - Bathroom wall - Residential wall - Commercial wall  Exteriors - Façade Applications	-
Finish	Polished / Honed / Brushed	-
Installation System	Mechanical	-
Reaction to Fire	N/A***	EN 13501
Determination of Tensile Adhesion Strength for Adhesive (N/mm <sup>2</sup> )	>1,2	EN 12004
Determination of Heat Ageing Adhesive Strength for Adhesive (N/mm <sup>2</sup> )	>1,4	EN 12004
Impact Resistance	Class 1 – No Damage	ISO 7892
Pendulum Test	1(B)1	EN 12600

\* Thickness may change as per customer requirements

\*\* LSP Glass (GLI) may not be suitable for National Class 0 and 1 type of locations according to Building Regulations Part B2

\*\*\* N/A: Not applicable

# LSP - X

## 10 mm Reinforced Tiles & Slabs

- Interior Flooring and Walls
- 50% of the weight of 2 cm marble panel
- Available in various surface finishes (polished, honed, brushed, sandblasted, sandblasted & brushed)
- Suitable for use in wet areas (shower floors)

Most Common Applications:

- Building Construction Industry
- Furniture industry

Installation: Adhesion (Cement / Silicone / Epoxy).



## LSP X Technical Information

	LSP X	Test Standards
Max Panel Dimension (mm)	1800 x 3000	-
Panel Thickness (mm)	10	-
Outer Surface Natural Stone Thickness (mm)	9	-
Core Panel Thickness	1	-
Weight (kg/m <sup>2</sup> )	27	-
Performance Properties	Not Flexible	-
Place of Use	Interiors - Bathroom floor & wall - Residential floor & wall - Commercial wall	-
Finish	Polished / Honed / Brushed / Sandblasted / Sandblasted & Brushed	-
Installation System	Adhesion (Cement / Silicone / Epoxy)	-
Reaction to Fire	B-s1, d0	EN 13501
Determination of Tensile Adhesion Strength for Adhesive (N/mm <sup>2</sup> )*	>1	EN 12004
Determination of Tensile Adhesion Strength for Adhesive (N/mm <sup>2</sup> )**	>2.5	EN 12004
Rupture Energy (Joule)	>53	EN 14158
Slip Resistance (Sandblasted)	R13	DIN 51130
Slip Resistance (Sandblasted)	C	DIN 51097
Modulus of Rupture (N/mm <sup>2</sup> )	43.71	ISO 10545-4
Breaking Load (N)	4708.9	ISO 10545-4
Breaking Strength (N/mm <sup>2</sup> )	4394.4	ISO 10545-4
Impact Resistance	Class 1 – No Damage	ISO 7892

\* (cement based)

\*\* (epoxy based)





# TECHNICAL INFORMATION

LAMINATED STONE PANEL	LSP AL w/Aluminium Skin		LSP AL w/FiberSkin
Max Panel Dimensions (mm)	1800 x 3000	1800 x 3000	1800 x 3000
Standard Slab Size (mm)	1500 x 2500	1500 x 2500	1500 x 2500
Panel Thickness (mm) **	20	25	20
Outer Surface Natural Stone Thickness (mm)	5	5	5
Core Panel Thickness (mm)	15	20	15
Installation System	-	-	-
Place of Use	-	-	"Interiors Bathroom Floor & Wall Residential Floor & Wall Commercial Wall"
Weight (kg/m <sup>2</sup> )	18	19	16
Performance Properties	Not Flexible	Not Flexible	Not Flexible
EN13501 Reactions to Fire	A2-s1, d0	A2-s1,d0	A2-s1, d0
ASTM E84 Reactions to Fire	-	Class A	Class A
NFPA285 Reactions to Fire	Pass	Pass	-
EN12179 Resistance to Wind Loads, Displacement (0-4kPa) (mm)	"Permanent Deformation:3,25 Displacement: 0,34"	-	-
EN12371 Determination of Frost Resistance -48 Cycles (MPa)	4,17±0,31	-	-
"EN13919 Determination of Resistance to Ageing by SO <sub>2</sub> Action in the Presence of Humidity %"	0,75±0,25	-	-
"EN14066 Determination of Resistance to Ageing by Thermal Shock (MPa)"	"Average Mass Loss: 0,02% Flexural Strength Difference: -1,53"	-	-
EN14158 Determination of Rupture Energy (joule)	4,2±0,16	-	-
EN14147 Determination of Resistance to Aging by Salt Mist %	0,24±0,05	-	-
"EN12372 Flexural Strength (MPa)"	28,76	-	-
"ASTM C297 Tensile Strength"	-	-	-
"ASTM C99 Dry Condition Modulus of Rupture"	-	-	-
"ASTM C99 Wet Condition Modulus of Rupture"	-	-	-
"ASTM D2247 Water Resistance"	-	-	-
ASTM C482 Bond Strength	-	-	-
ASTME 330 Resistance to Safety Load	-	± 9000 Pa	-
AAMA 501.5-07 Thermal Cycling	-	"High Temperature 60°C Low Temperature - 40°C"	-
ISO7892 Impact resistance tests	E 5 (950 mm;475 J)	E 5 (950 mm;475 J)	Class 1- No Damage
"Determination of tensile adhesion Strength for Initial Adhesive (N/mm <sup>2</sup> )"	0,8	0,8	>1
"Determination of tensile adhesion Strength for Heat Ageing Adhesive (N/mm <sup>2</sup> )"	0,8	0,8	-
"Determination of tensile adhesion Strength for Freeze-thaw Adhesive (N/mm <sup>2</sup> )"	0,7	0,7	-
Pendulum Test -EN 12600	-	-	-

\* Natural stone column is for Dark Olive stone.

\*\* Panel thickness vary according to the customer demands and suitability of use.

\*\*\* Maximum size of the panel will be 100x200 cm for calcareous stone types such as Dark Olive.

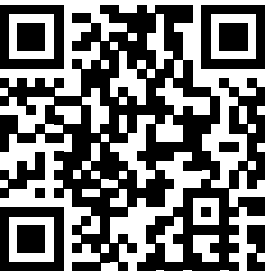


LSP FG		LSP PR		LSP GLI	LSP GLX
1800 x 3000	1250 x 2500	1800 x 3000	1200 x 2400	1800 x 3000	1800 x 3000
1250 x 2500	1250 x 2500	1200 x 2400	1200 x 2400	-	-
20	10	7	15	15	15
5	5	3	5	5	5
15	5	4	10	10	10
"Adhesion (Silicone/ Epoxy)"	"Adhesion (Silicone/ Epoxy)"	"Adhesion (Cement/ Silicone/ Epoxy)"	"Adhesion (Cement/ Silicone/ Epoxy)"	Mechanical	Mechanical
"Interiors* Bathroom Wall Residential Wall Commercial Wall Furniture"	"Interiors* Bathroom Wall Residential Wall Commercial Wall Furniture"	"Interiors Bathroom Floor & Wall Residential Floor & Wall Commercial Wall Exteriors - Façade Applications (max. 15 meters)"		"Interiors* Bathroom Wall Residential Wall Commercial Wall"	"Interiors* Bathroom Wall Residential Wall Commercial Wall Exteriors Façade Applications"
16	15	16,6	39	38	38
Flexible	Flexible	Not Flexible		Not Flexible	Not Flexible
B-s1, d0	B-s1, d0	B-s1, d0		-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	242 psi	-	-
-	-	-	4240 psi	-	-
-	-	-	3990 psi	-	-
-	-	-	No deleterious effects	-	-
-	-	-	269 psi	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	Class 1- No Damage	Class 1- No Damage	Class 1- No Damage
0,7	0,7	>1	1,5	>1,2	>1,2
0,5	0,5	-	-	>1,4	>1,4
0,4	0,4	-	-	-	-
-	-	-	-	1 (B)1	-

<b>LSP X</b>	<b>Natural Stone*</b>
1800 x 3000	1800 x 3000
-	-
10	-
9	20
1	-
"Adhesion (Cement/ Silicone/ Epoxy)"	Mechanical / Adhesion
"Interiors Bathroom Floor & Wall Residential Floor & Wall Commercial Wall"	"Interiors/ Exteriors/ Floor/Wall/ Claddings"
27	56
Not Flexible	Not Flexible
B-s1, d0	A1
-	-
-	-
-	-
-	13,9
-	-
-	Average Mass Loss: 0,02%
-	-
-	-
-	14,3
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
Class 1- No Damage	-
>1	0,9-1,5
-	-
-	-
-	-

# LSP

**TECHNICAL  
INFORMATION**



## Silkar Madencilik San. ve Tic. A.S.

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**SILKAR  
STONE**