

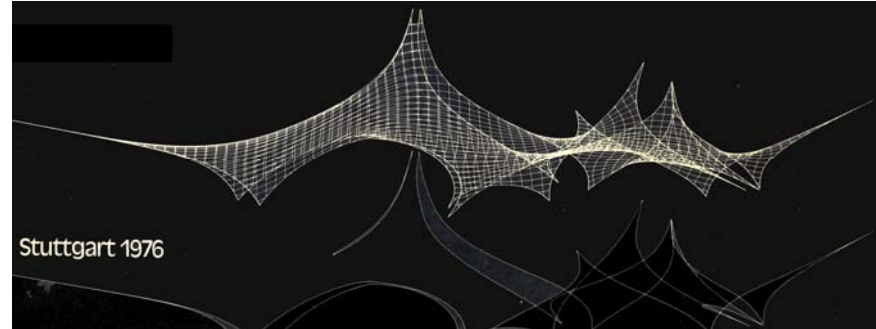
**RIGID EDGE, BUILDING ATTACHED
MEMBRANE STRUCTURES
CASE STUDY: AMADO ROOF STRUCTURE,
TECHNION - ISRAEL**

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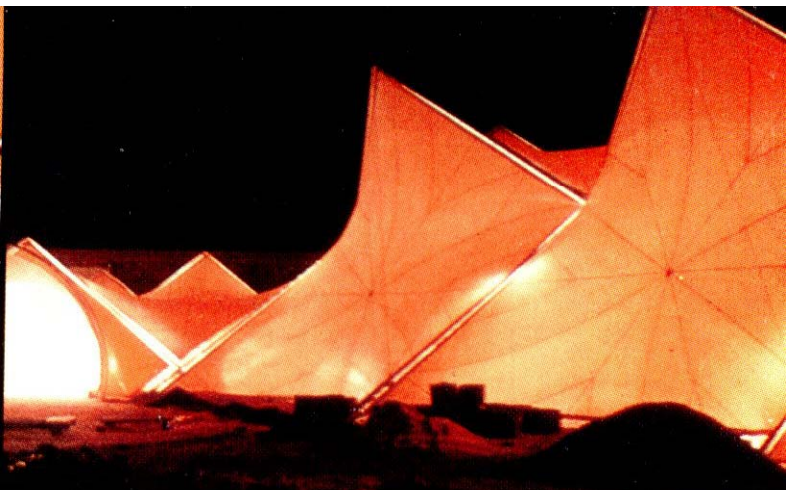
Membrane Space Structures

'Free Form' (Cable perimeter) and
'Rigid Edge' - Alternative Design
Strategies



Rigid Edge Design Approach

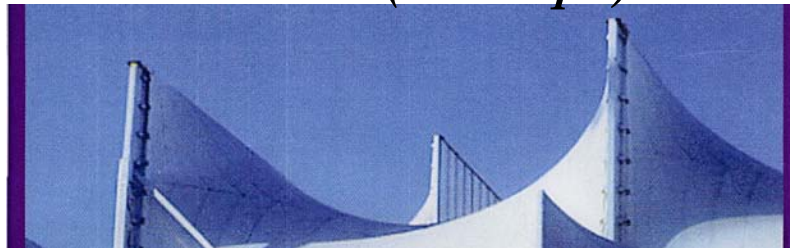
Pre-stressed Fabric Membranes
Attached to Rigid Edge Skeletal
Steel Structure



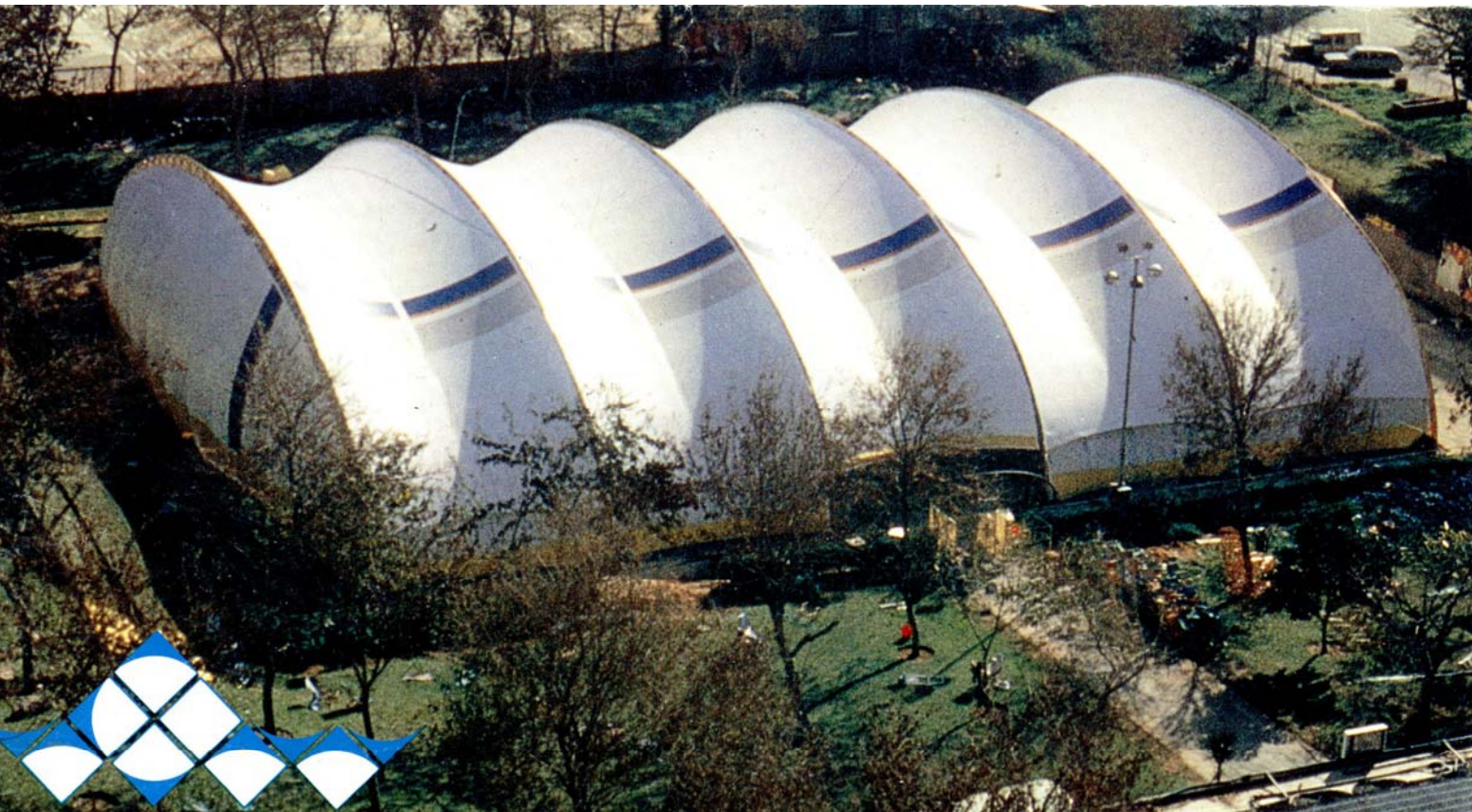


Carmiel commercial center

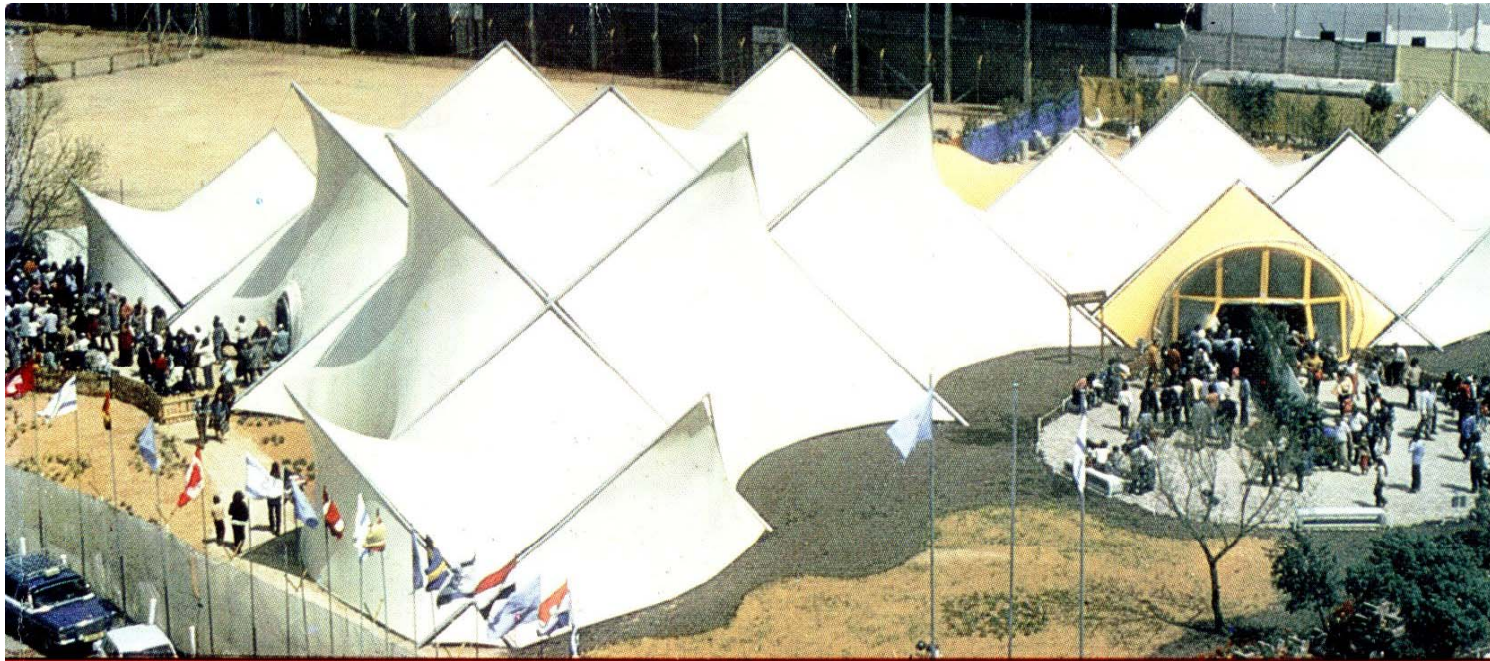
*Rigid Edge Membrane Space
Structure (3500 sqm)*









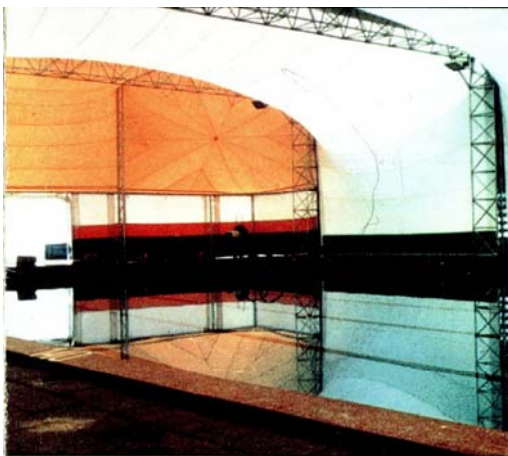
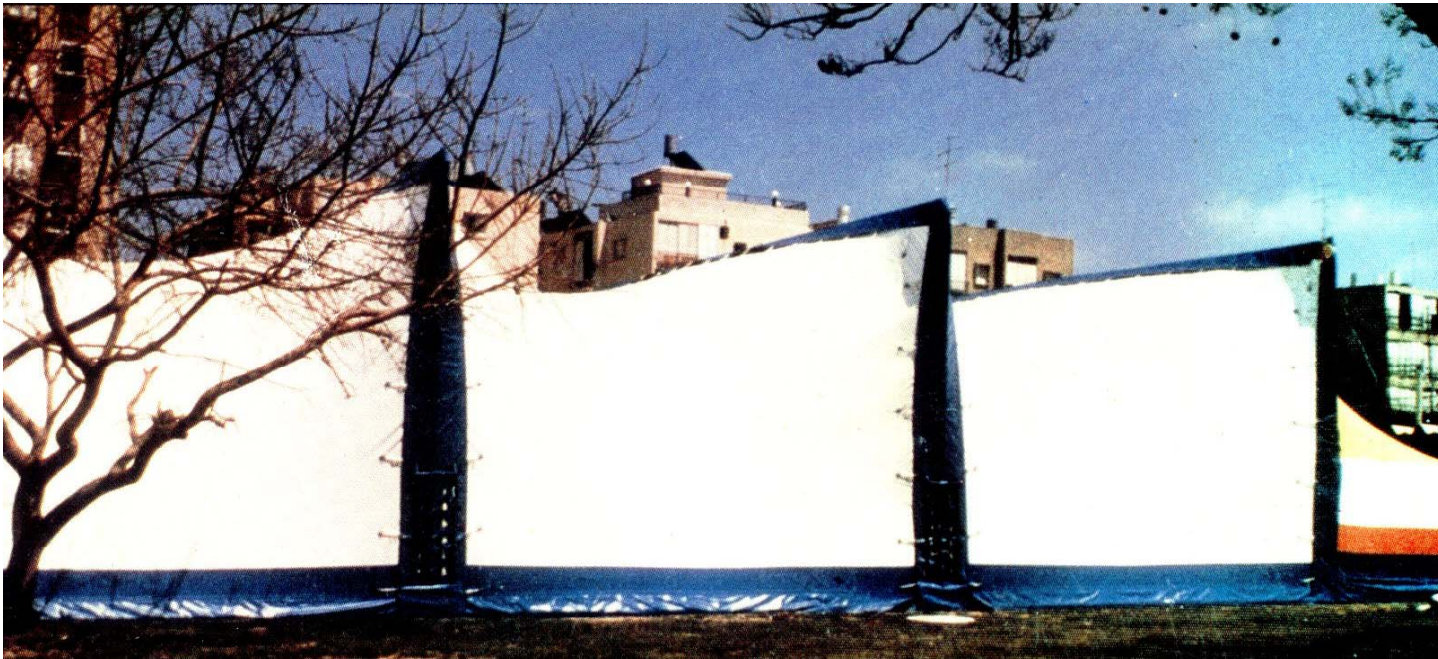


Flower Exhibition
Pavilion - Haifa
1980

Membrane Space
Structure

Close-Pack of
Saddle Polyhedra



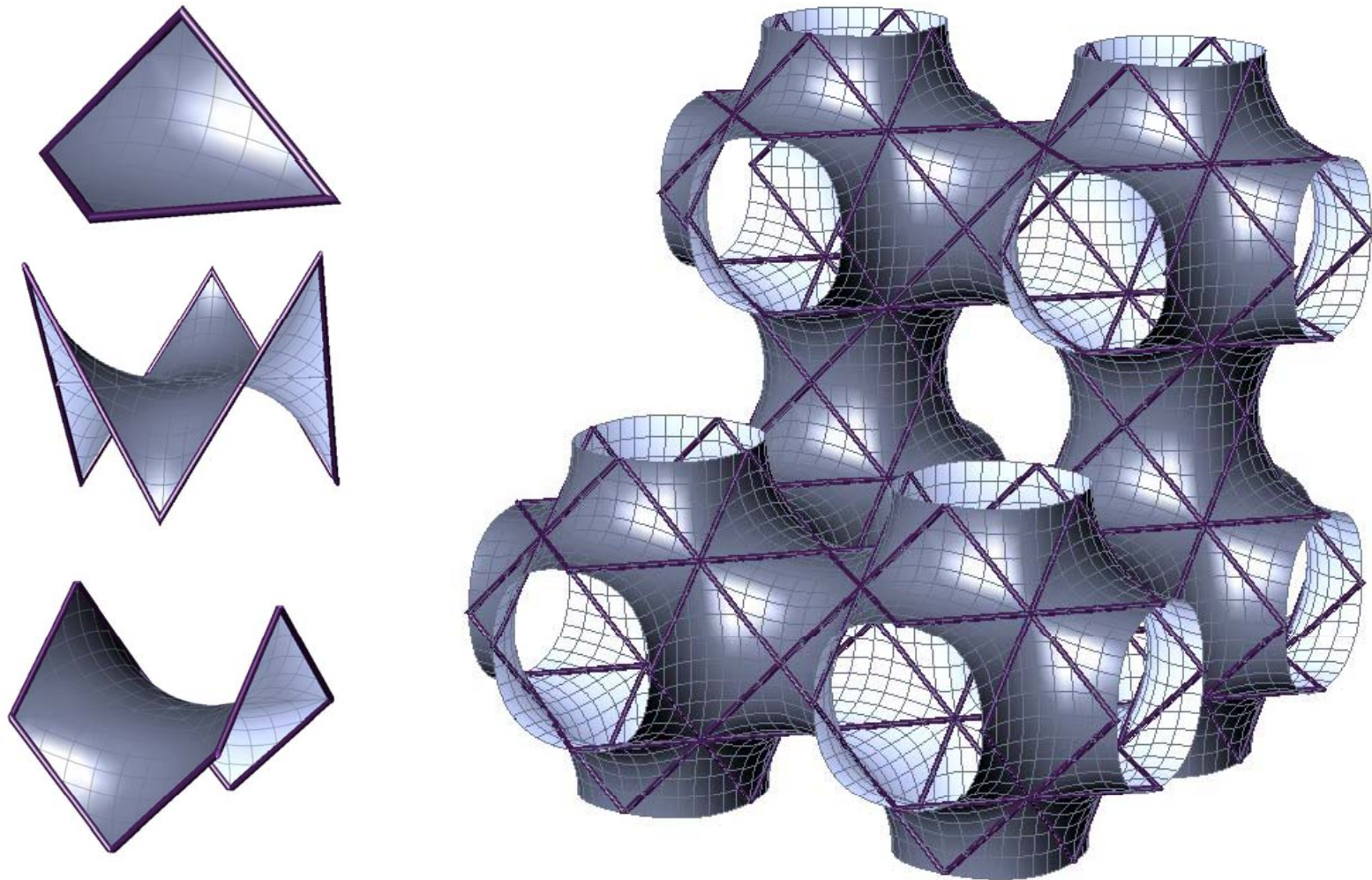


Membrane Space Structure
Holon Swimming Pool Cover,
The Rigid Edge Approach

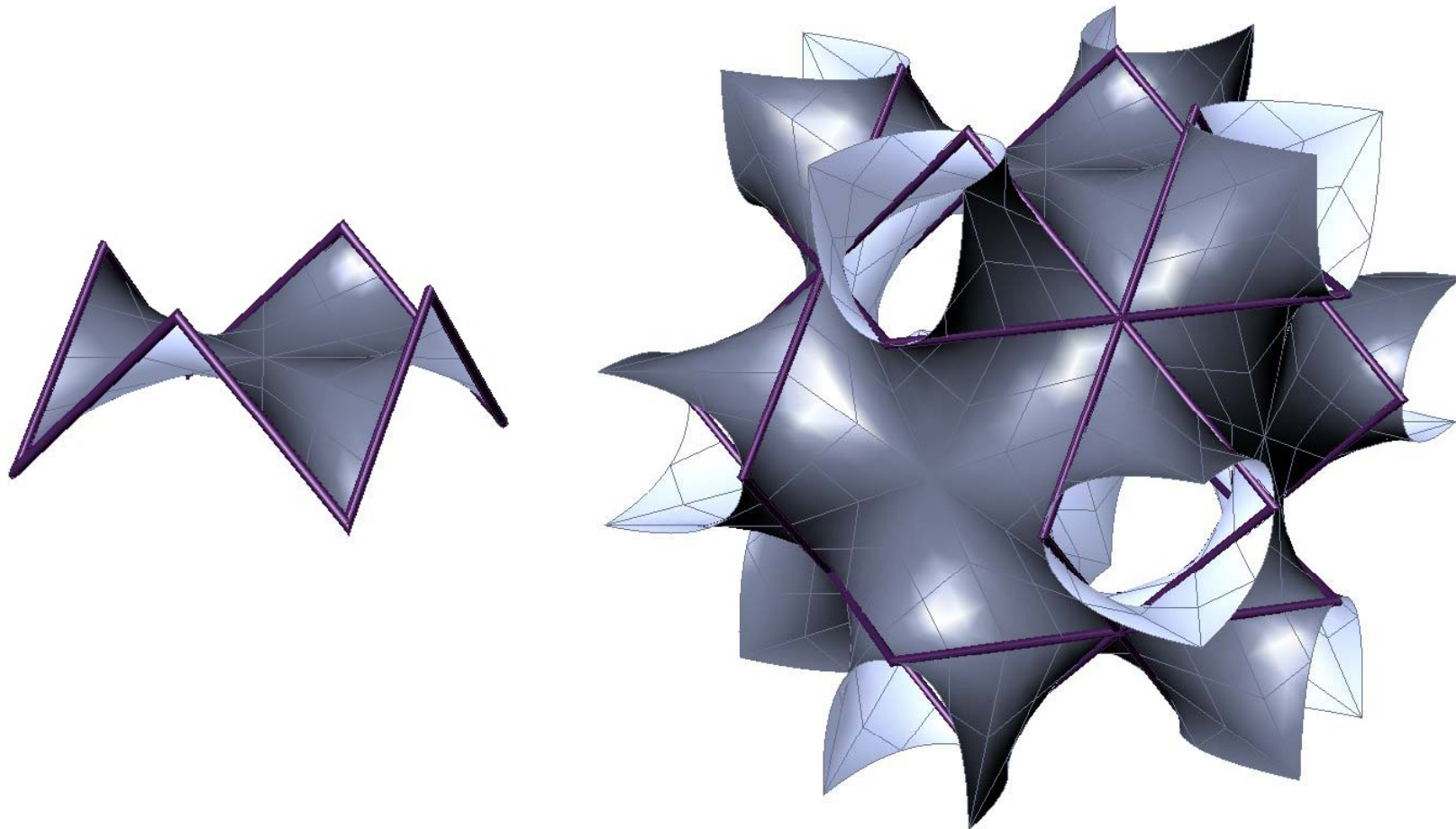


Morphological Basis of the
Modular “Lego” Approach for
Design of Rigid Edge
Membrane Space Structures

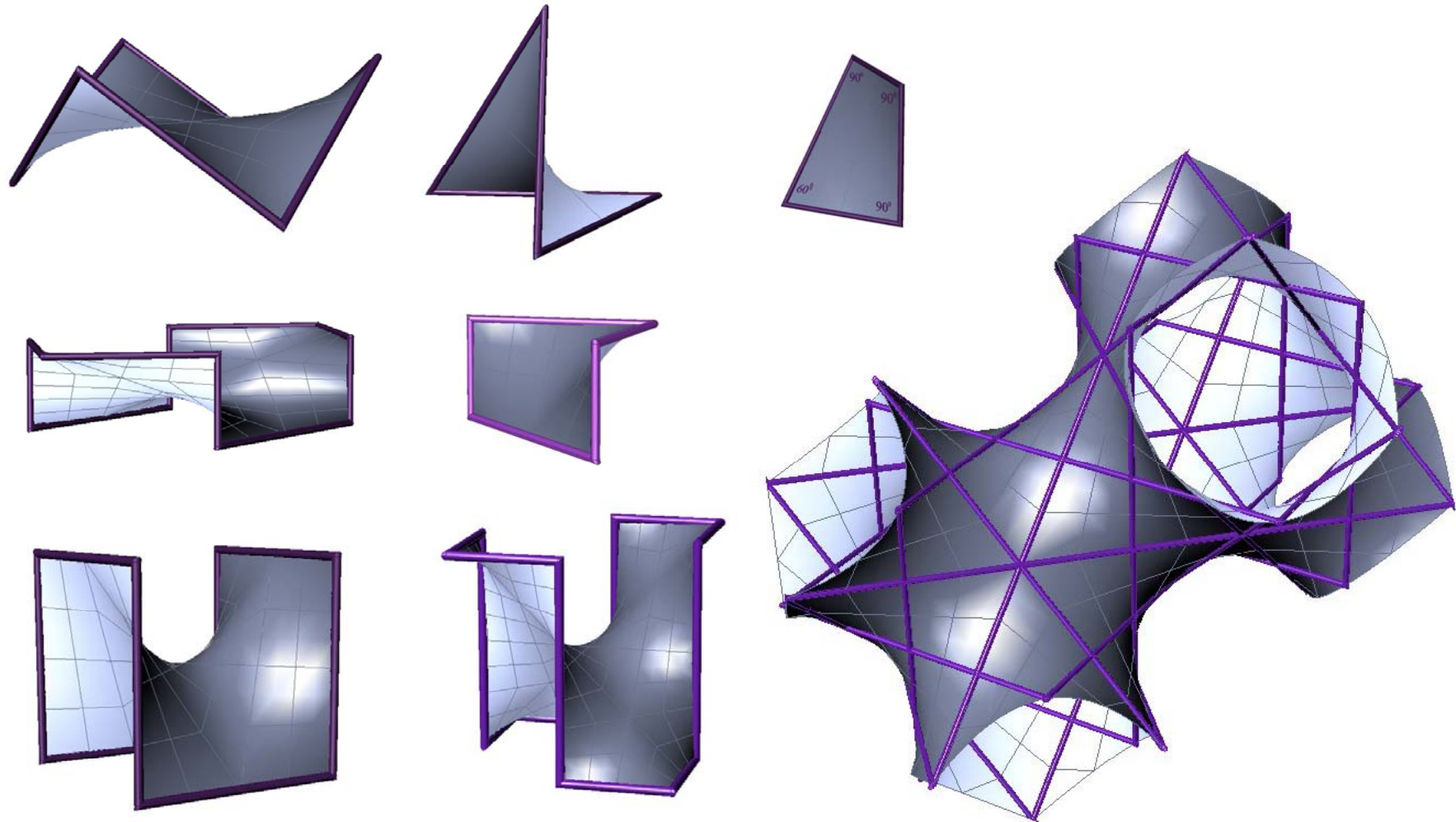
Periodic Hyperbolic (cubic) Surface as a Modular Space Sub-division



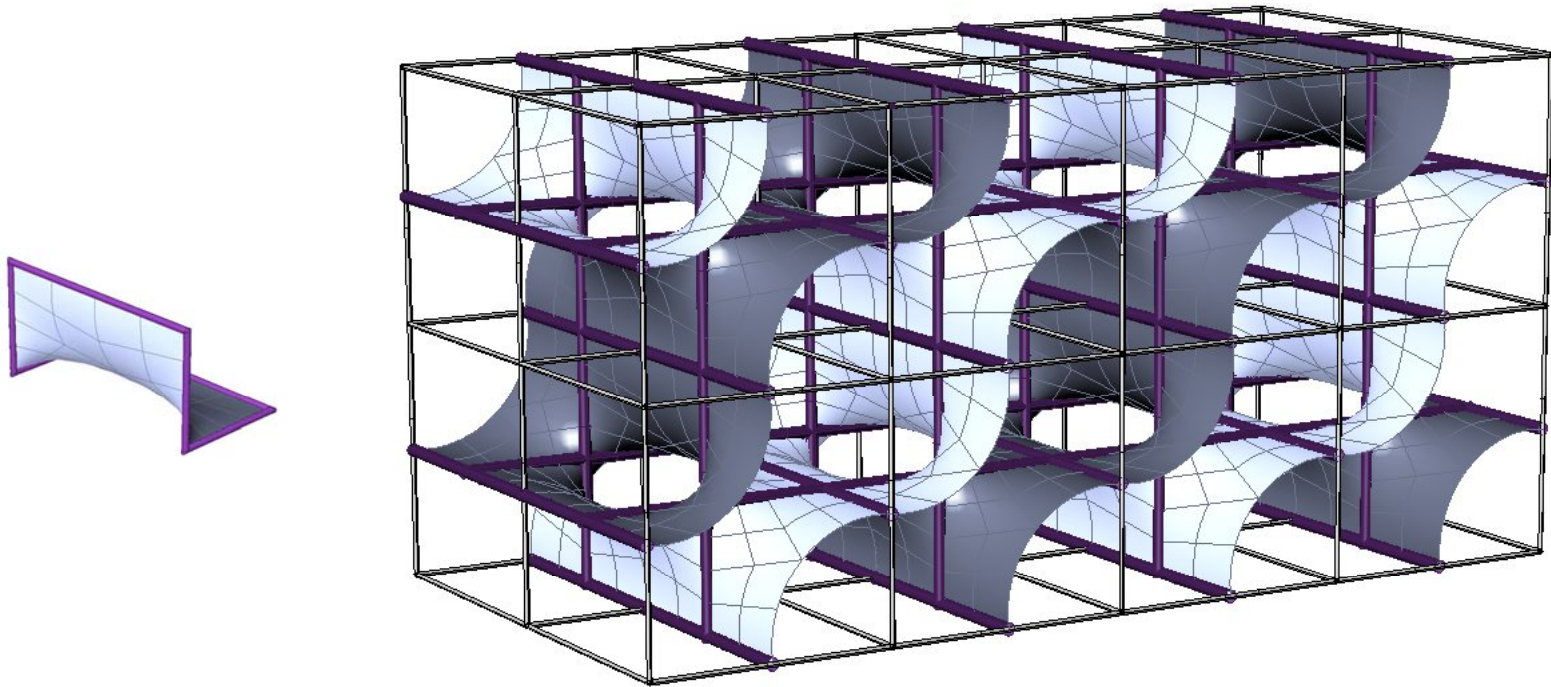
Periodic Hyperbolic (cubic face-centered) Surface as a Modular Space Sub-division



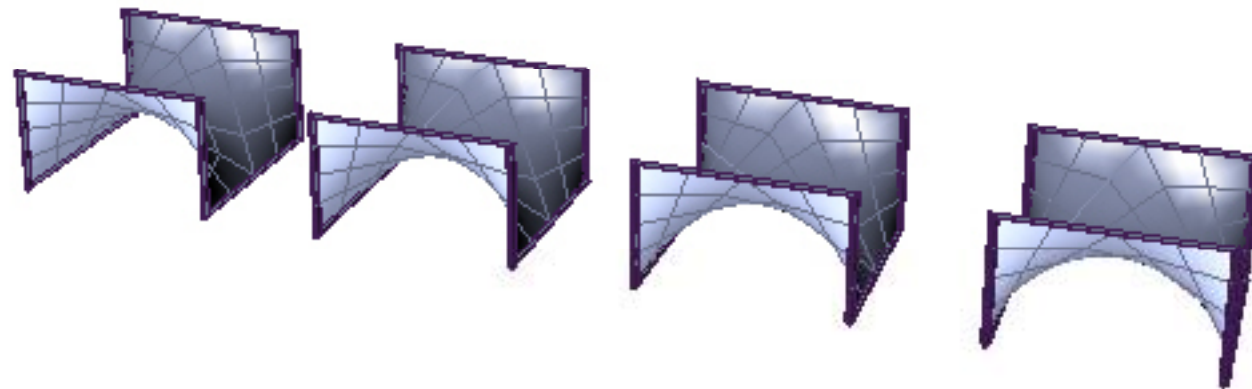
Periodic Hyperbolic (diamond) Surface as a Modular Space Sub-division



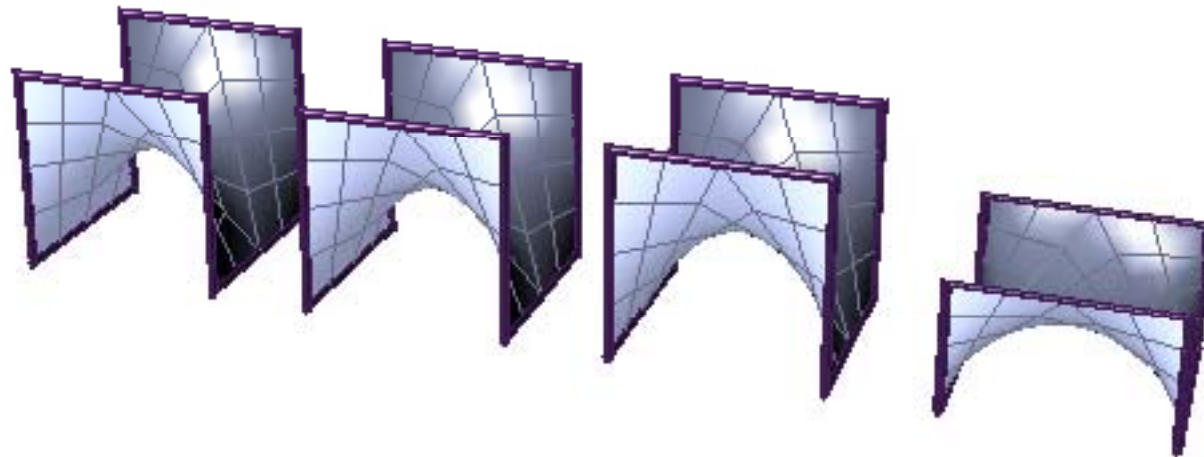
Periodic Hyperbolic (orthogonal) Surface as a Modular Space Sub-division



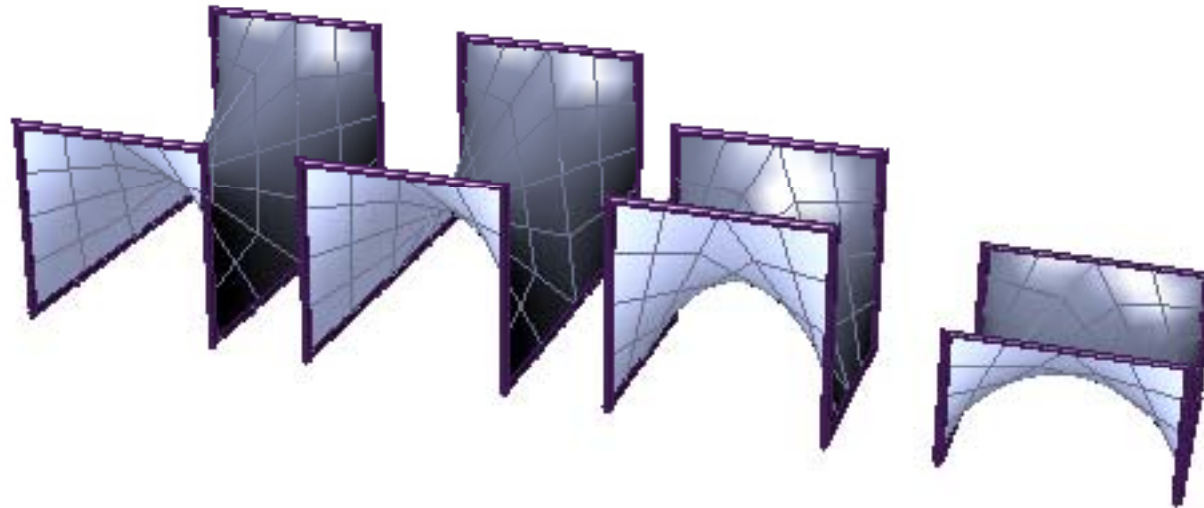
Orthogonal 3-D Straight edge Polygonal “bricks” for modular Membrane Roof System



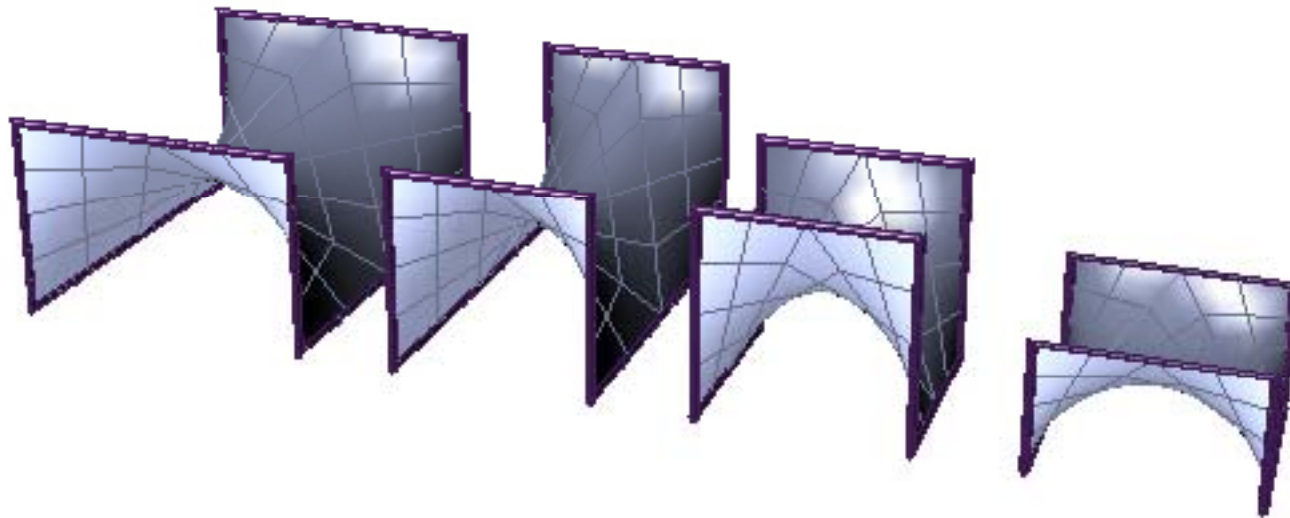
Orthogonal 3-D Straight edge Polygonal “bricks” for modular Membrane Roof System



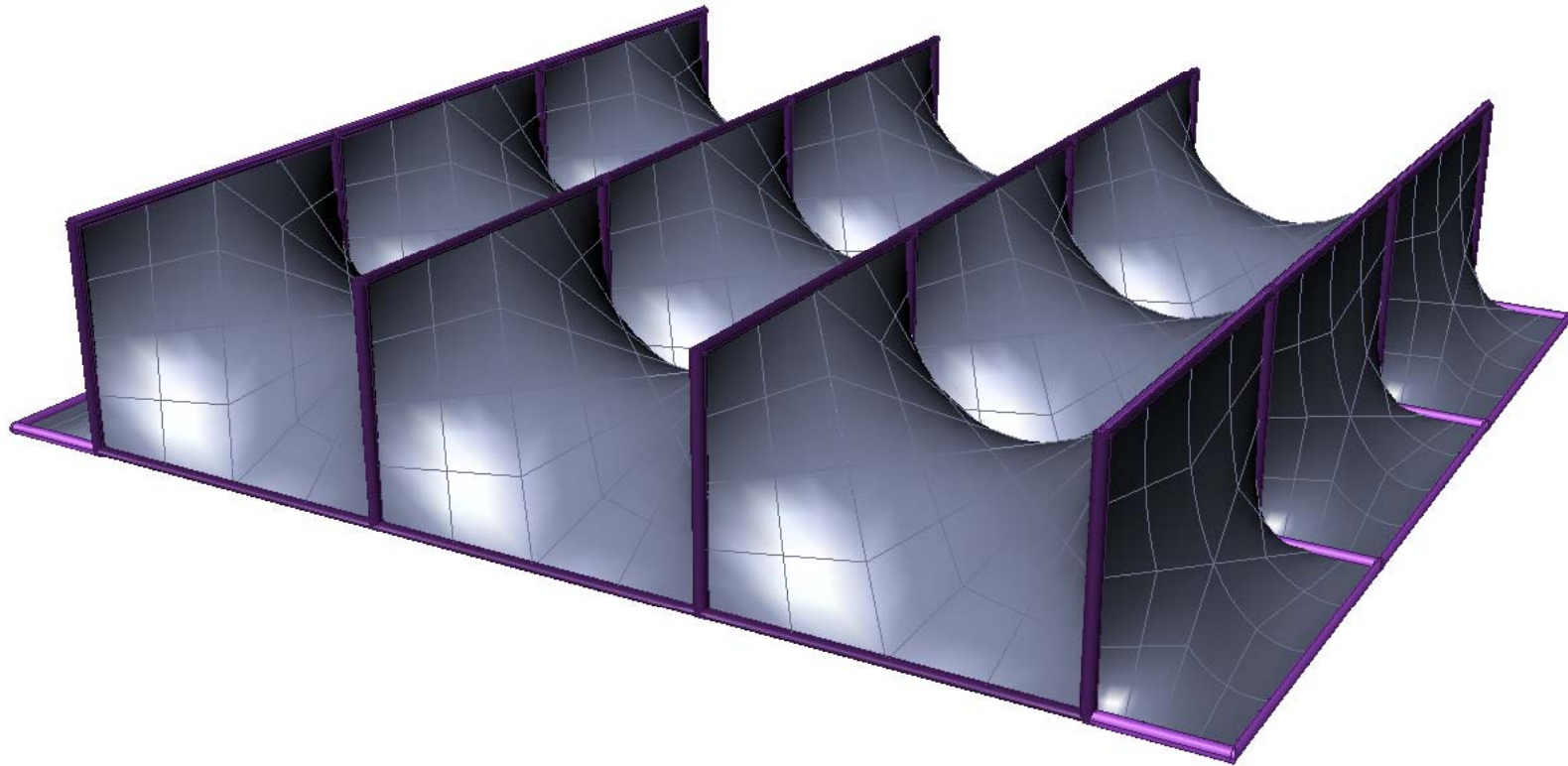
Orthogonal 3-D Straight edge Polygonal “bricks” for modular Membrane Roof System



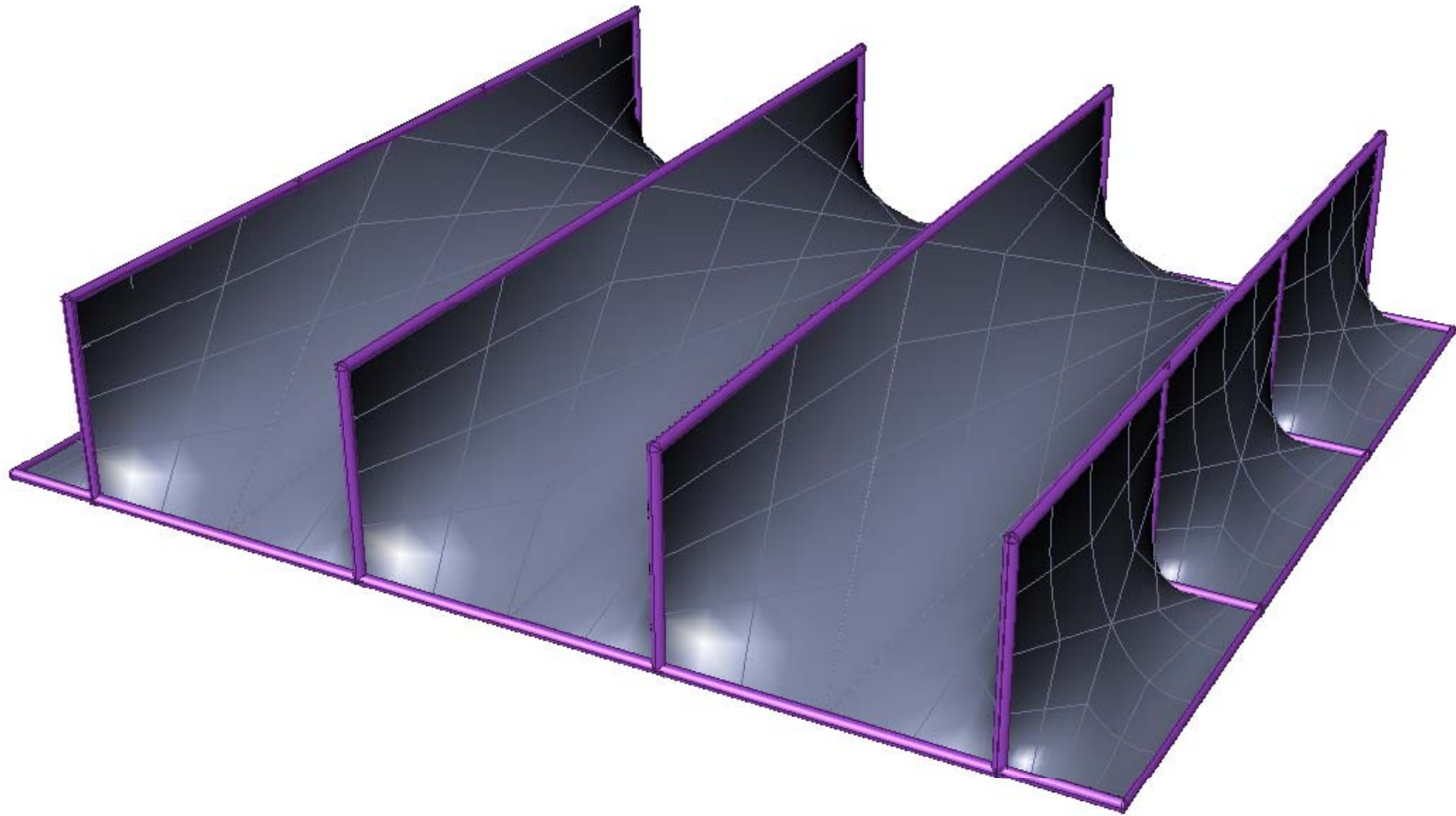
Orthogonal 3-D Straight edge Polygonal “bricks” for modular Membrane Roof System



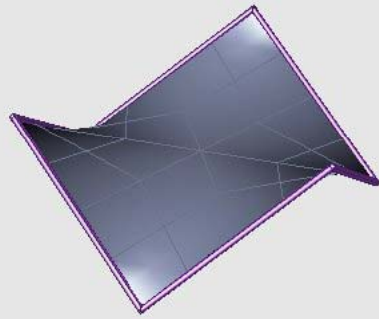
Modular "Rigid Edge" Membrane Roof Structure



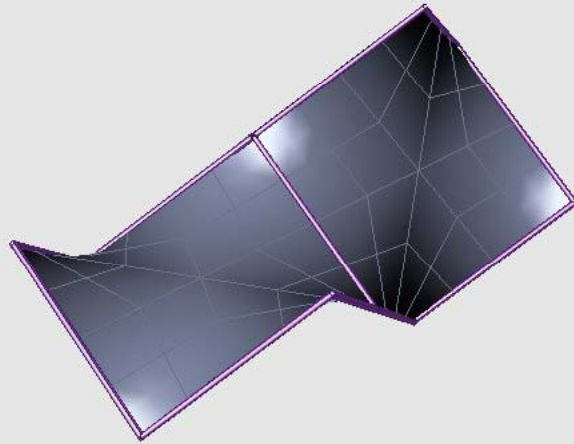
Modular "Rigid Edge" Membrane Roof Structure



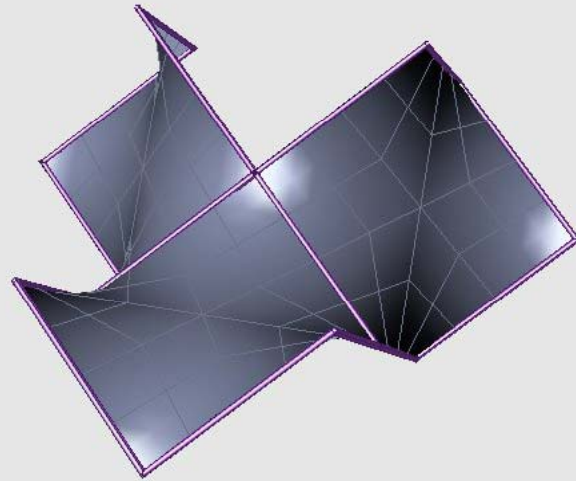
“LEGO LIKE”



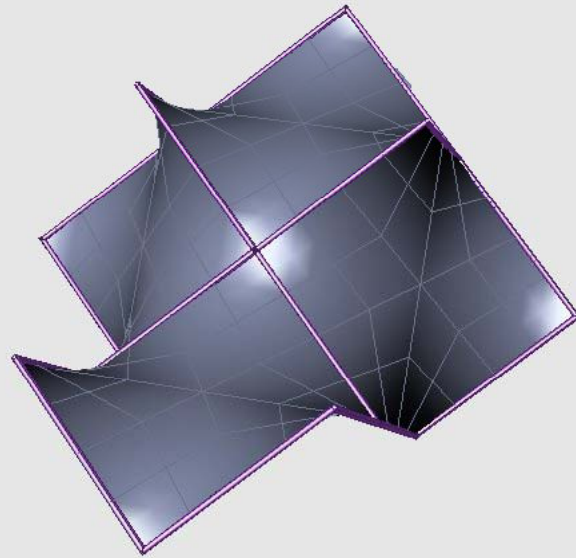
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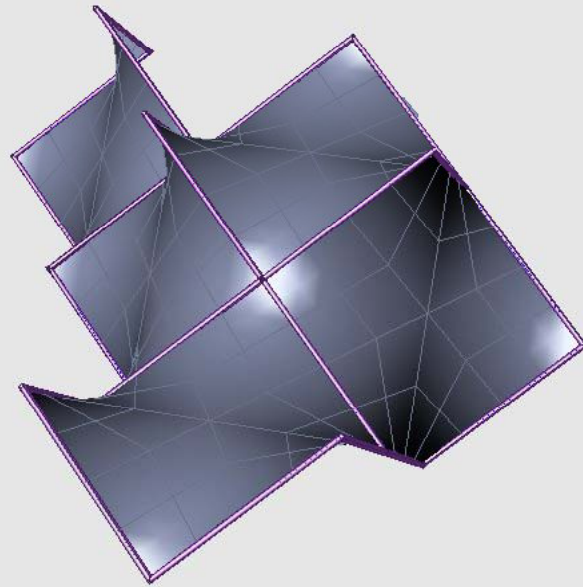
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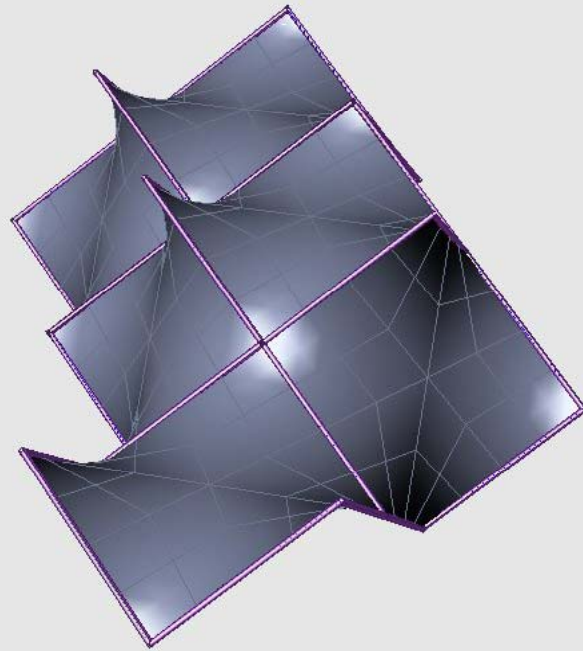
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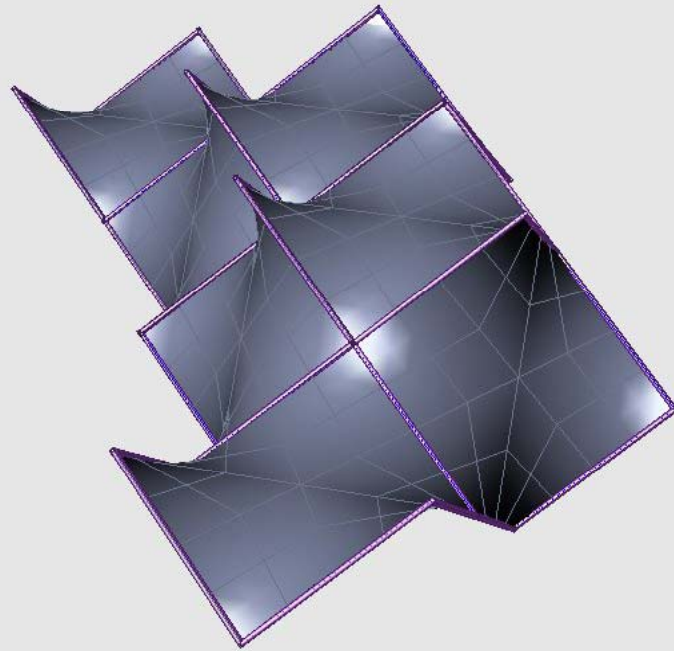
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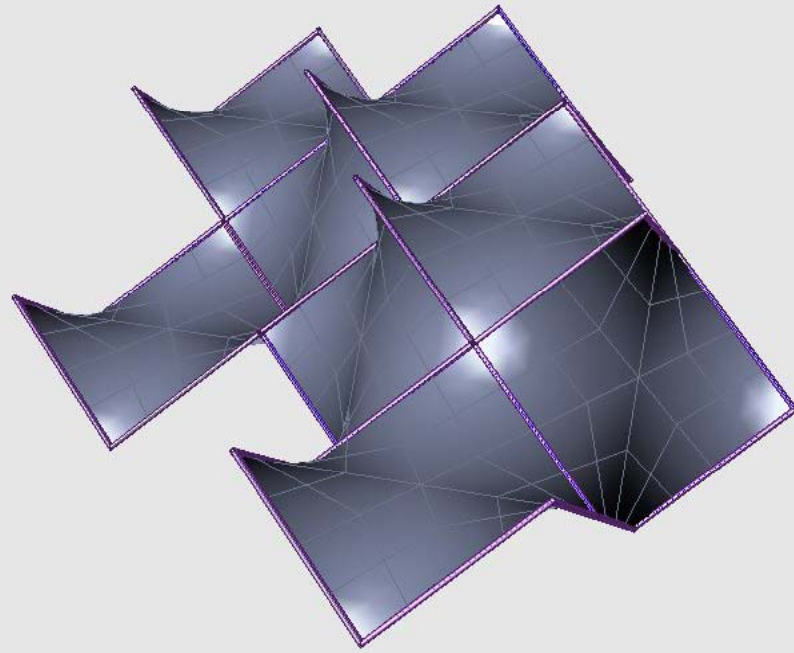
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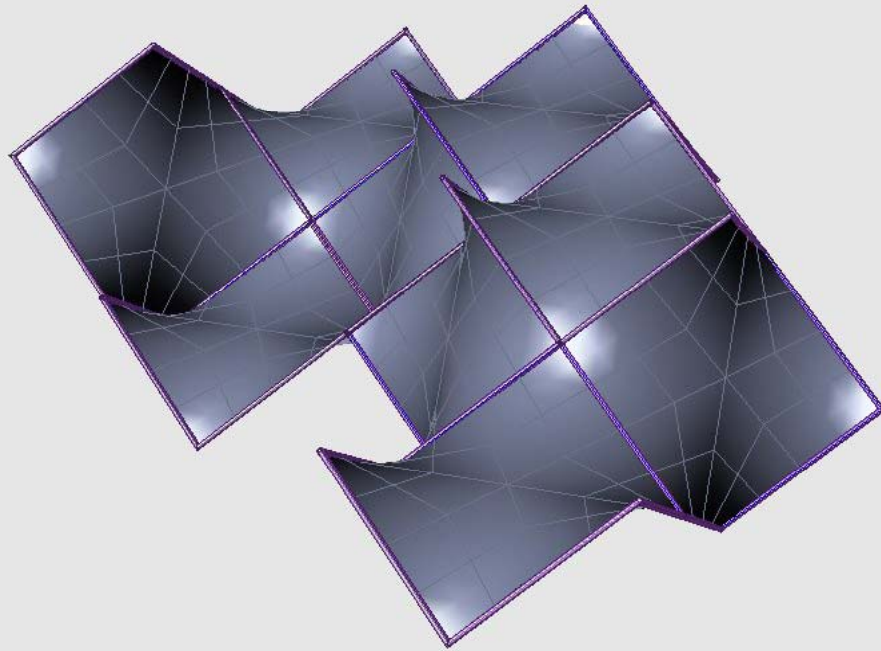
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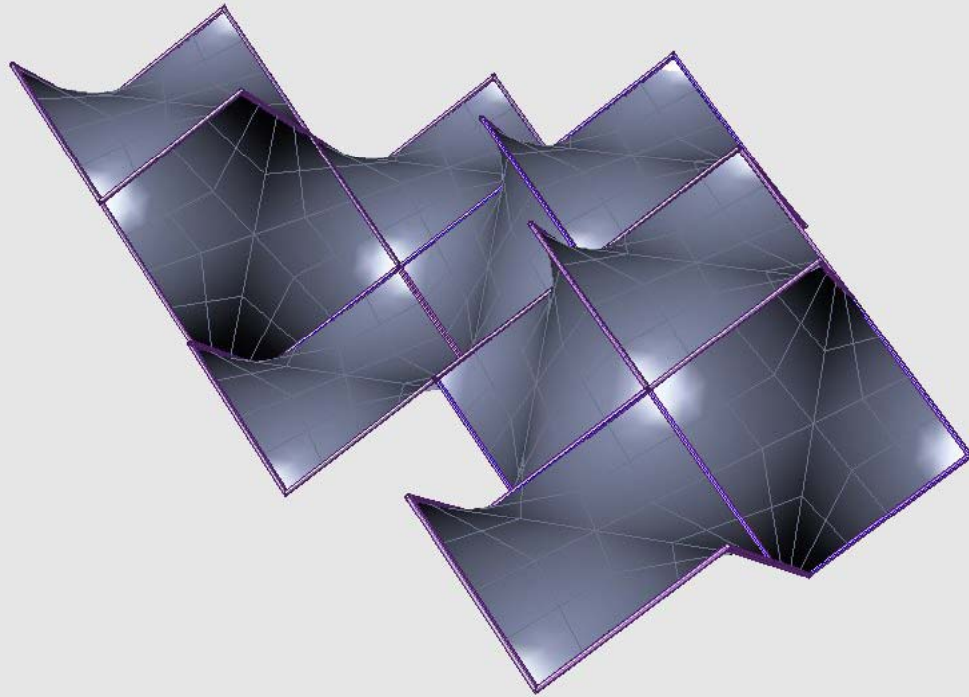
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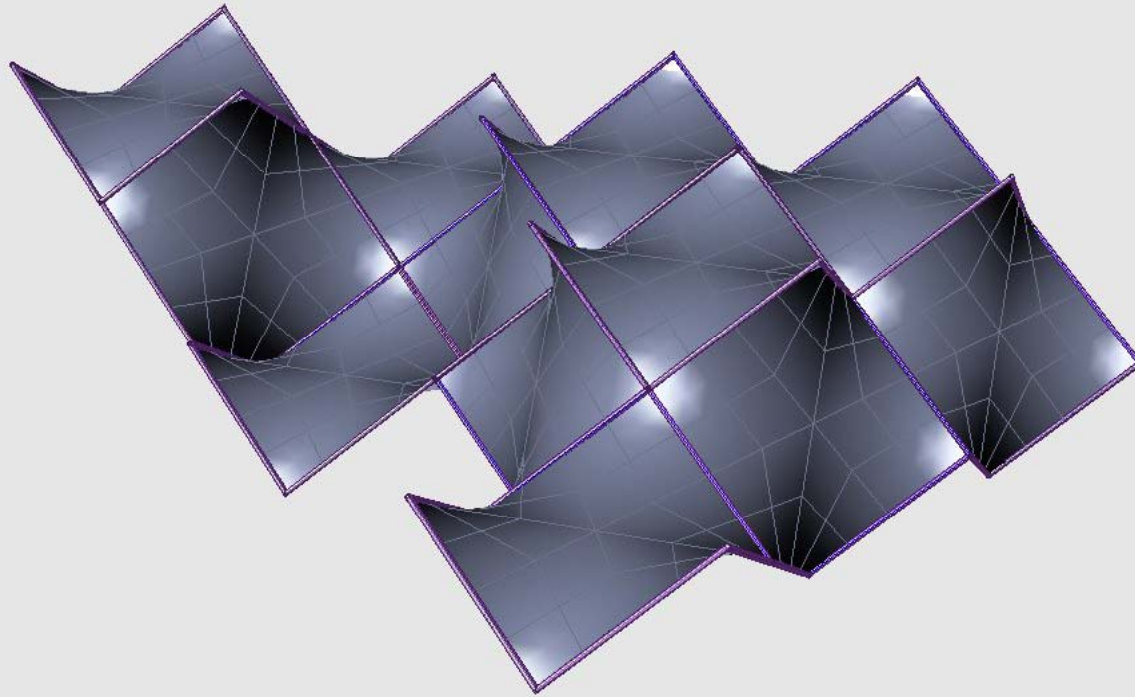
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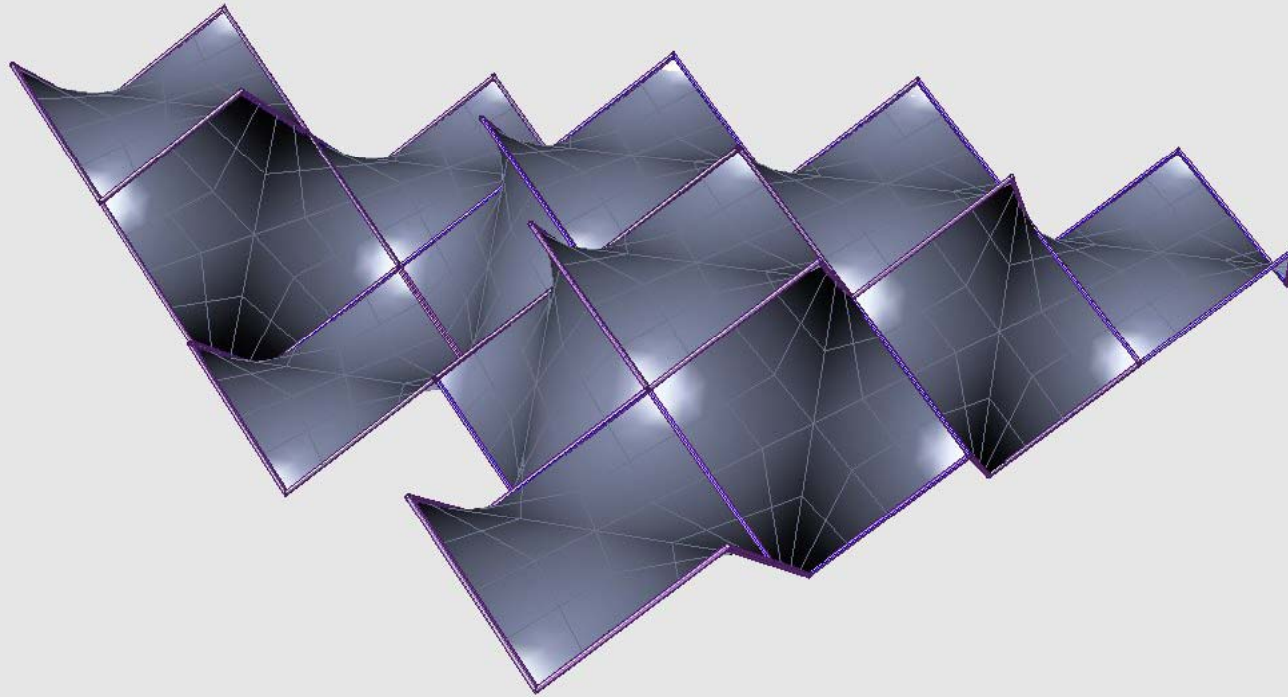
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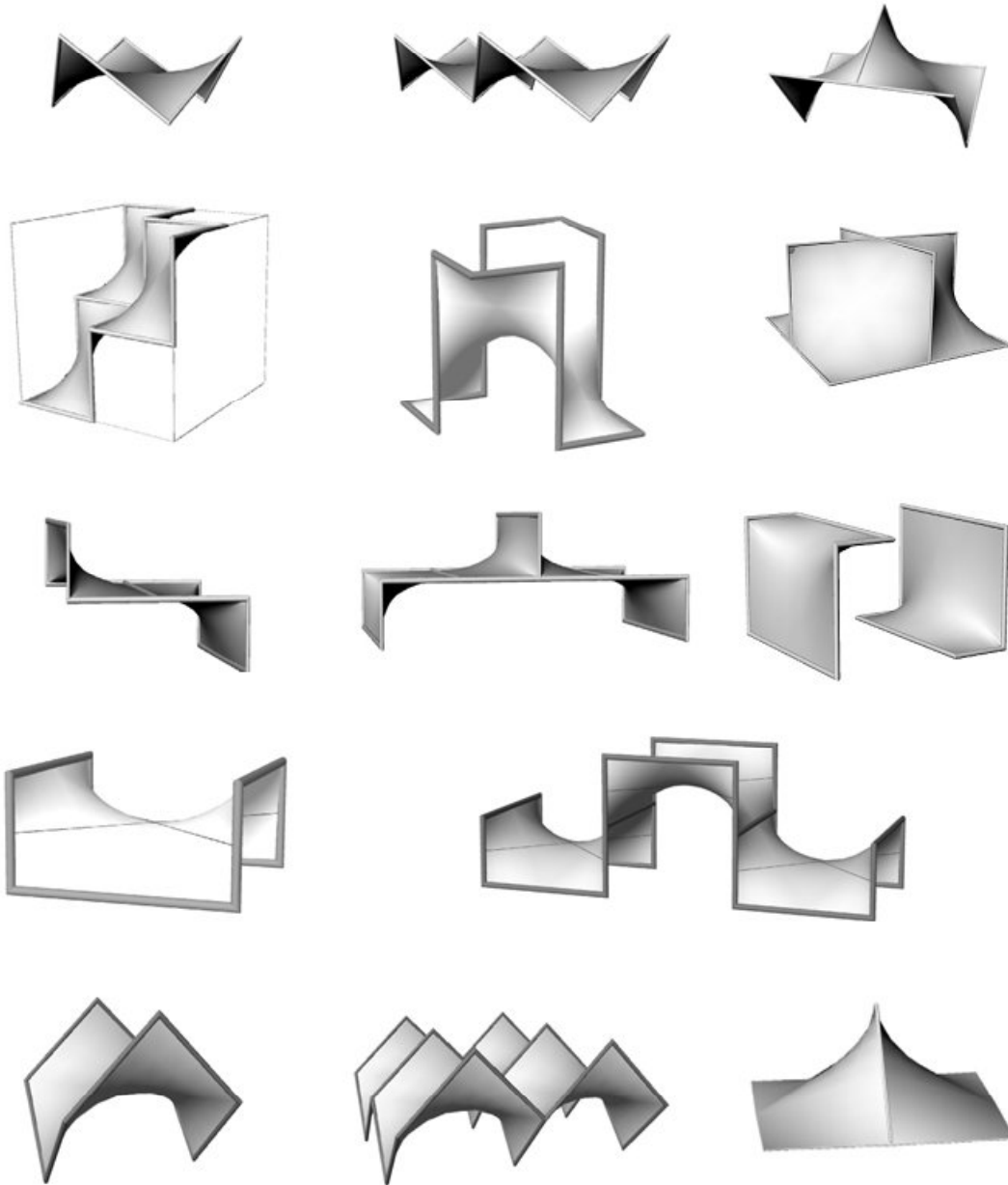


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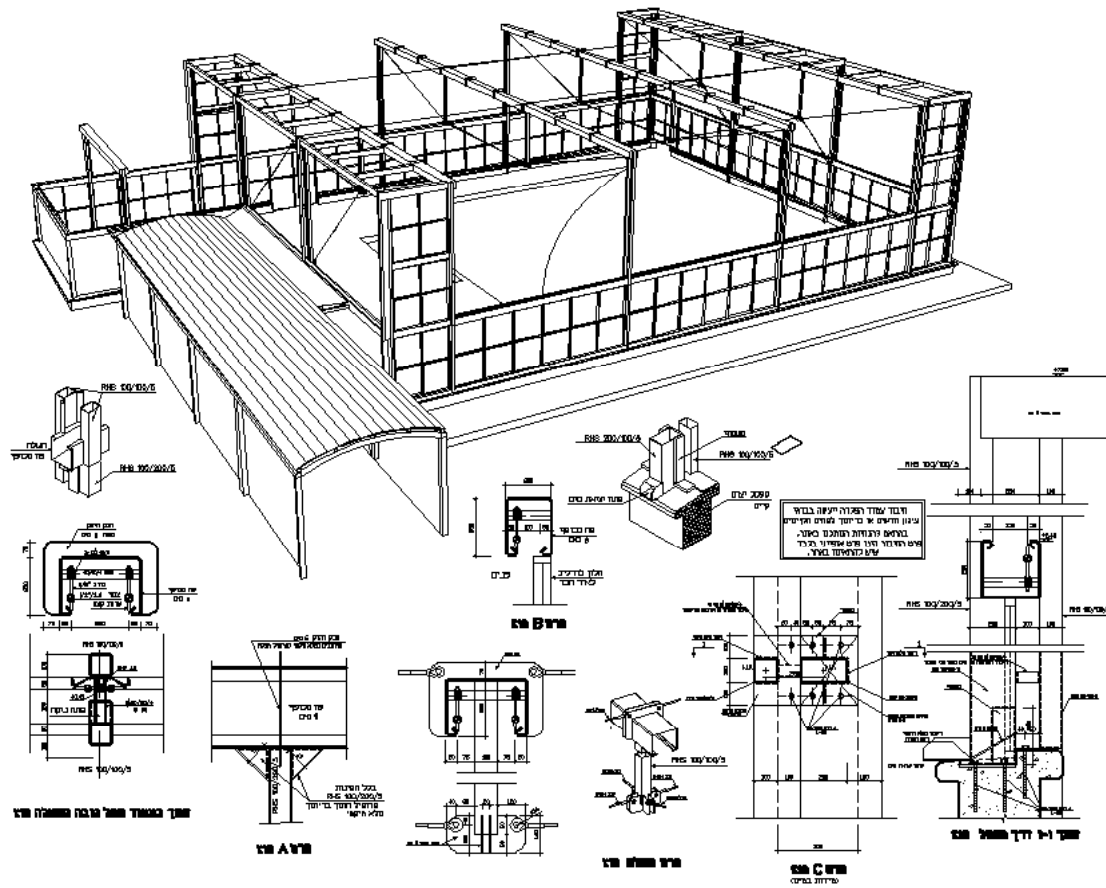
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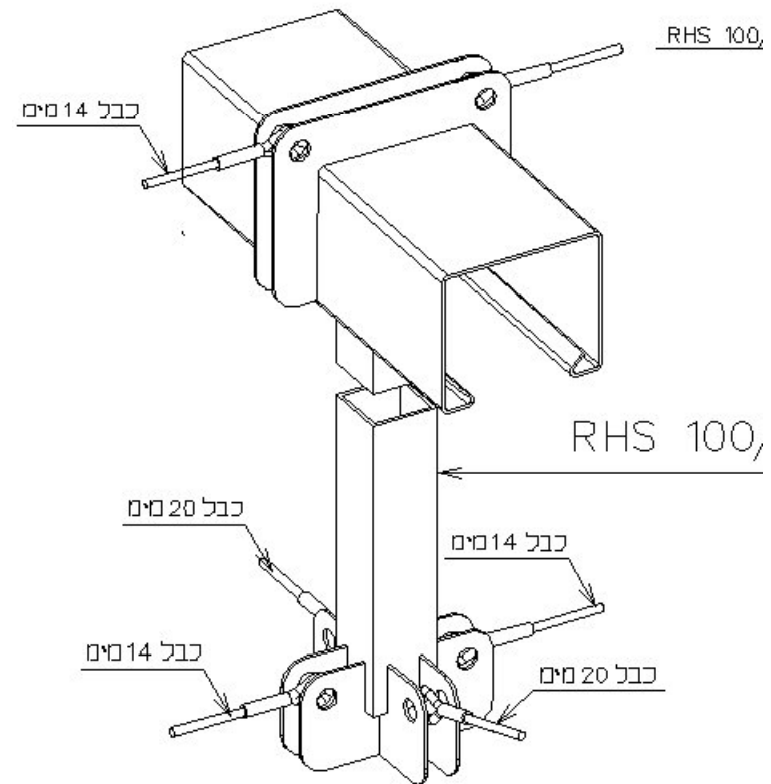
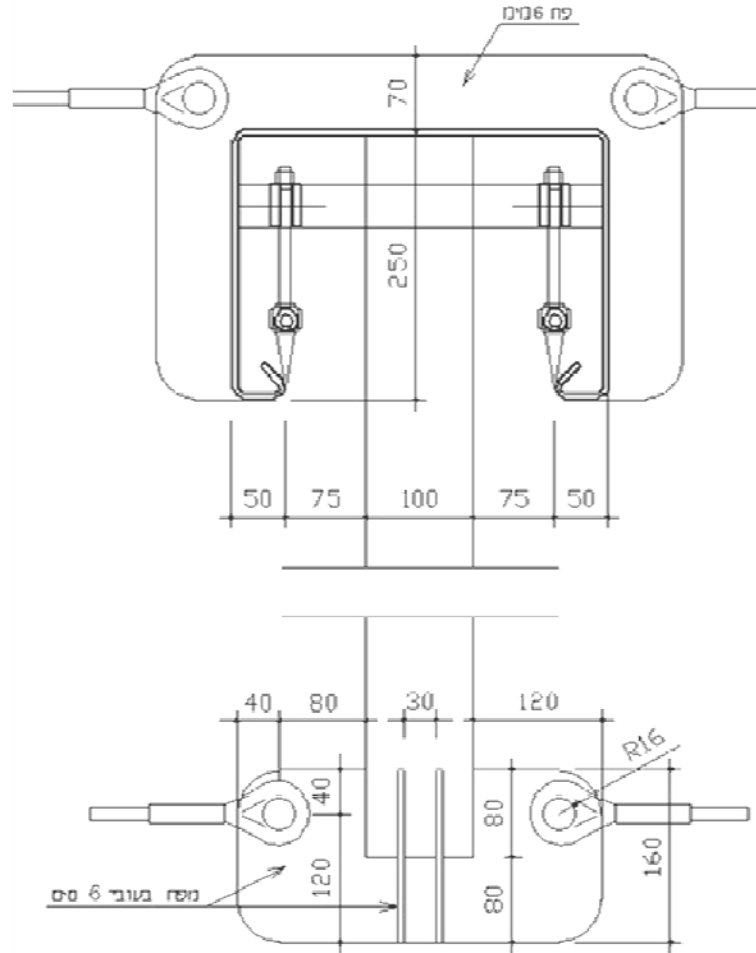


*‘Lego’ like,
orthogonal
membrane
units*

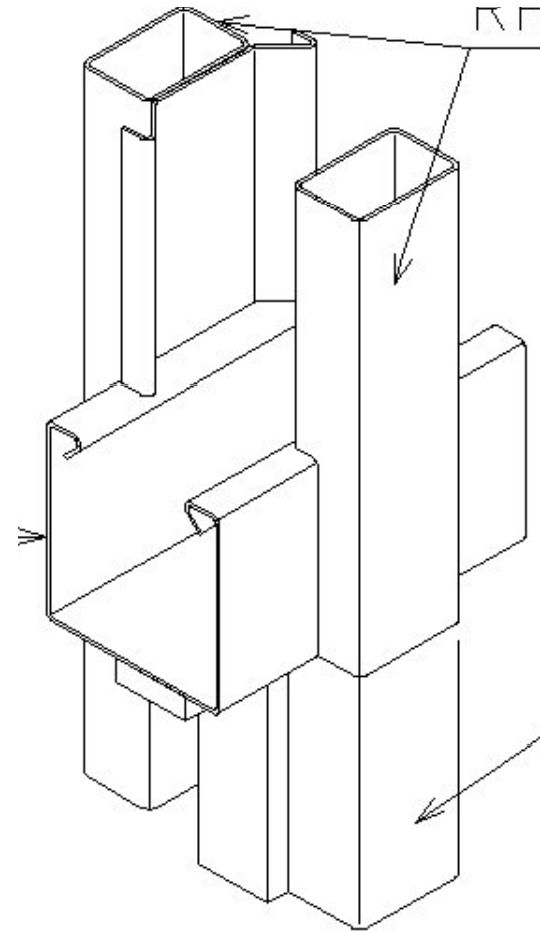
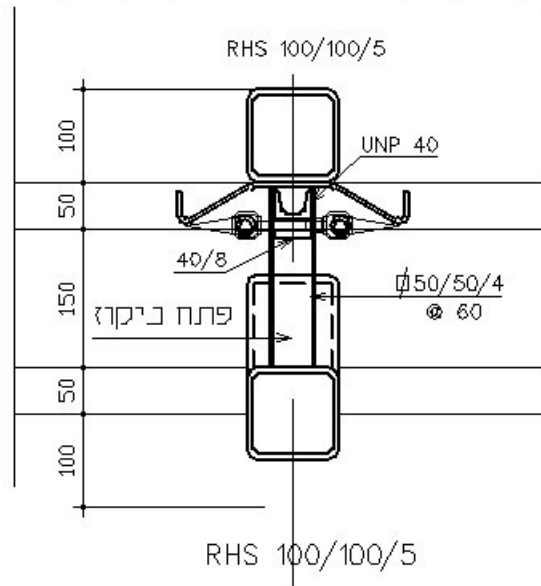
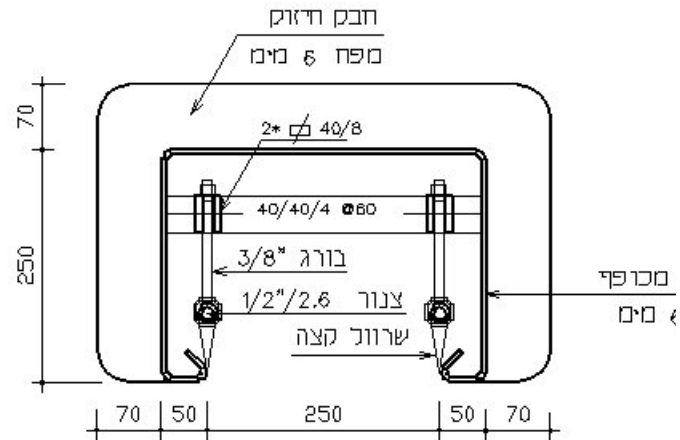
Design



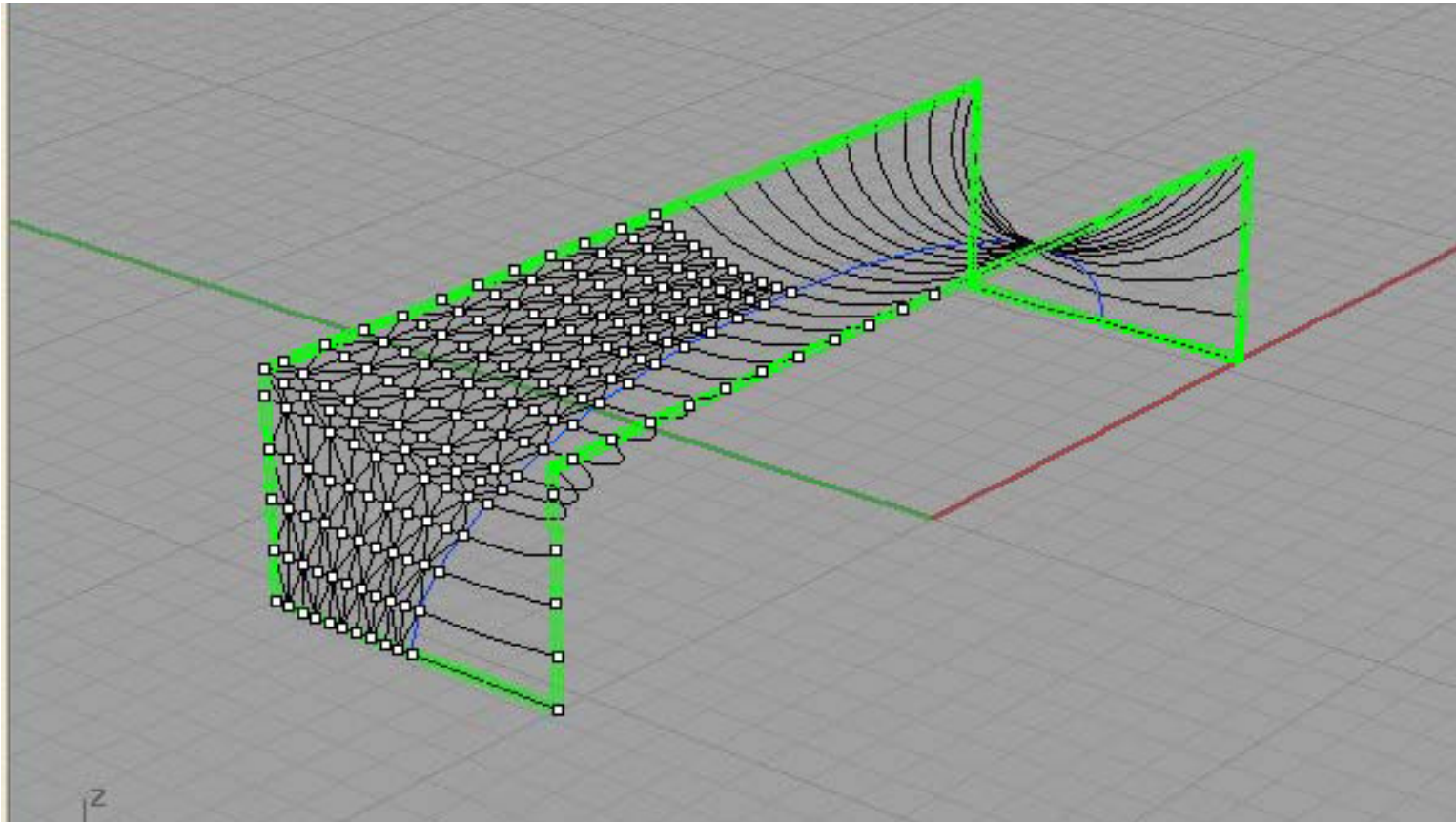
Design



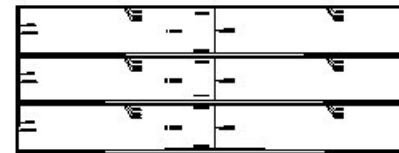
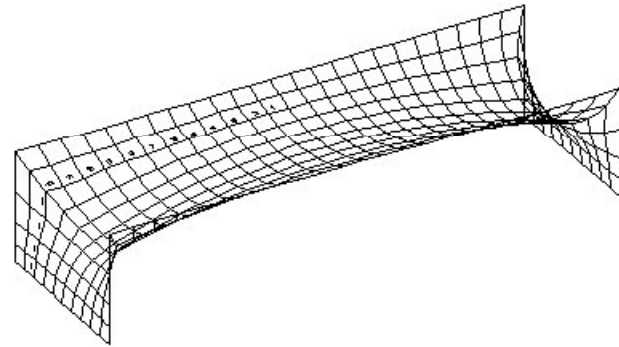
Design



Cutting Pattern



Cutting Pattern



Application



Application



Application



Application



Application



Application



Application



Amado Membrane Structure



Amado Membrane Structure



Amado Membrane Structure



Amado Membrane Structure



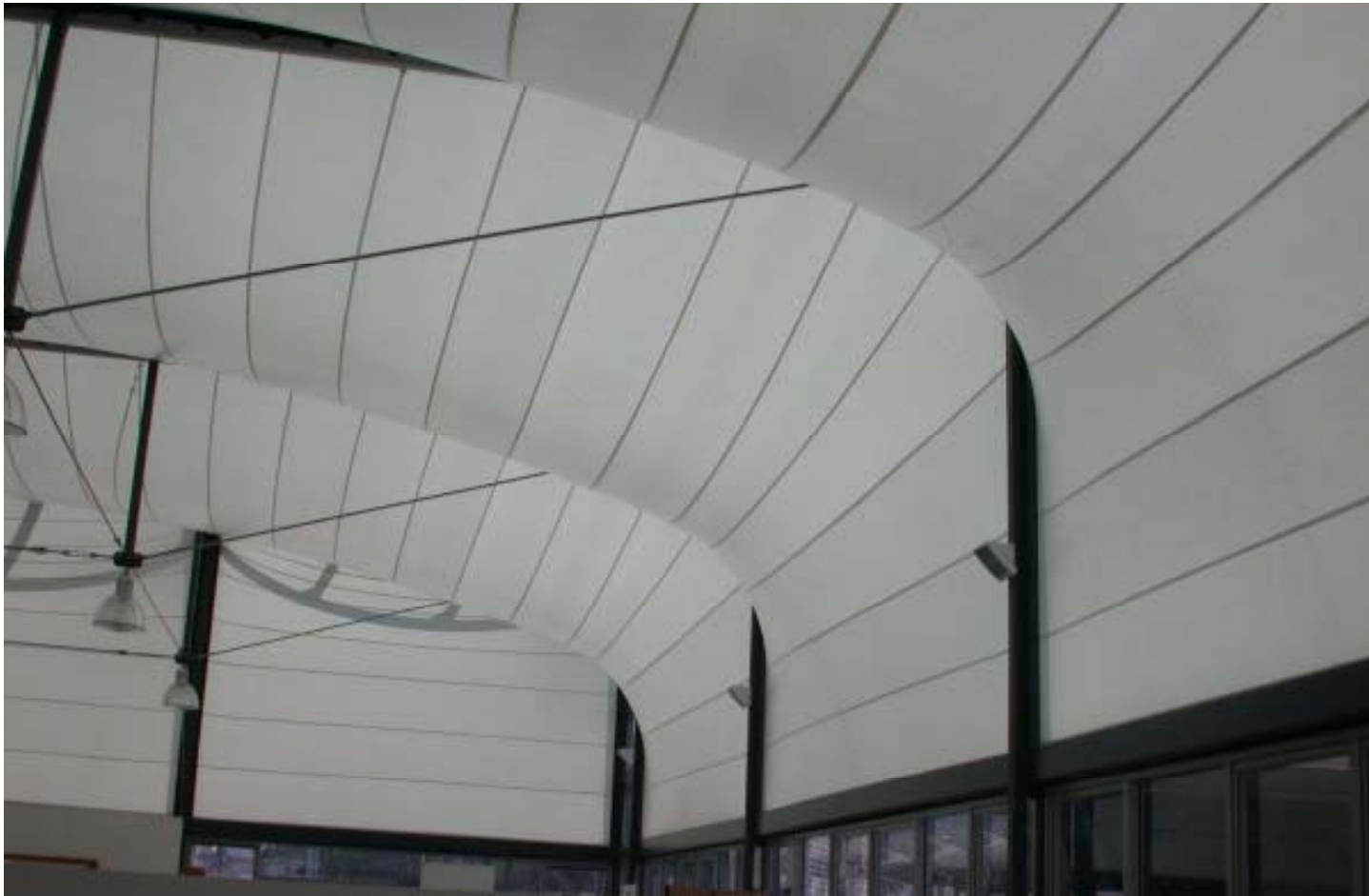
Amado Membrane Structure



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Amado Membrane Structure



Thanks

Burt - Korren