

# STEEL-FRAMED VS. AIR-SUPPORTED STRUCTURES

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## Choose a Steel-framed, Engineered Fabric Building

At Long Island Building Systems, we erect buildings that work as hard as you do. Designed specifically for your climate, your location, and your building needs, a steel-framed fabric structure is your ideal building solution. Consider the following criteria when comparing our buildings to alternatives such as air-supported structures (ie. bubbles or air halls):

<b>Structural Abilities</b>	
<b>Steel Fabric Structures</b>	<b>Air-Supported Structures</b>
<ul style="list-style-type: none"> <li>Fabric panels tensioned over engineered, steel trusses.</li> </ul>	<ul style="list-style-type: none"> <li><b>The fabric is the structural component. If there is a problem with the fabric, the structure is lost.</b></li> </ul>
<ul style="list-style-type: none"> <li>The light transmitted through our single cover, eliminates the need for daytime lighting even on cloudy days.</li> </ul>	<ul style="list-style-type: none"> <li><b>Coated PVC fabrics reduce translucency by 4-6% making it necessary for artificial lighting all the time.</b></li> </ul>
<ul style="list-style-type: none"> <li>The polyethylene fabric will not attract or hold dirt contaminants and proves to be self-cleaning.</li> </ul>	<ul style="list-style-type: none"> <li><b>Without expensive top finishes, fabric will become dirty further lowering translucency and degrading aesthetics.</b></li> </ul>
<ul style="list-style-type: none"> <li>Our buildings are engineered to meet or exceed all local applicable building codes.</li> </ul>	<ul style="list-style-type: none"> <li><b>Permits based on mechanical equipment specs that can maintain structure during high wind or inclement weather. Failure of mechanical equipment could mean complete collapse of building.</b></li> </ul>
<ul style="list-style-type: none"> <li><b>Our membrane fabric has extremely high tear-rip-stop capabilities</b></li> </ul>	

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<b>Operating Costs</b>	
<b>Steel Fabric Structures</b>	<b>Air-Supported Structures</b>
<ul style="list-style-type: none"> <li>Our membrane fabric virtually eliminates the need for daytime lights, drastically reducing operating costs compared to that of similar building types.</li> </ul>	<ul style="list-style-type: none"> <li><b>Lower translucency due to coated fabric demands daytime lights must be left on.</b></li> </ul>
<ul style="list-style-type: none"> <li>Power actuated vents and fans are on demand use only, further reducing energy demands.</li> </ul>	<ul style="list-style-type: none"> <li><b>Electric motors using 10-20 hp amps run 24 hours a day to maintain internal pressure and inflation.</b></li> </ul>
<ul style="list-style-type: none"> <li>Operation and maintenance costs are inexpensive overall.</li> </ul>	<ul style="list-style-type: none"> <li><b>Higher mechanical maintenance and associated insurance needs increase operating costs.</b></li> </ul>

<b>Year Round Usage</b>	
<b>Steel Fabric Structures</b>	<b>Air-Supported Structures</b>
<ul style="list-style-type: none"> <li>A shade-cloth effect requires minimum ventilation to keep the building cool in the summer.</li> </ul>	<ul style="list-style-type: none"> <li><b>Air-tight bubbles require year-round air conditioning (often taken down in the spring).</b></li> </ul>
<ul style="list-style-type: none"> <li>Optional insulation and heating systems ensure pleasant conditions in the winter.</li> </ul>	<ul style="list-style-type: none"> <li><b>Costs associated with take down, storage, and set up negatively affecting aesthetics and playing conditions year after year.</b></li> </ul>

<b>On-site Construction</b>	
<b>Cover-All</b>	<b>Air-Supported Structures</b>
<ul style="list-style-type: none"> <li>Foundation can be as little as footings at truss and end column base plate locations. Foundation requirements are typically a fraction of that of similar conventional buildings.</li> </ul>	<ul style="list-style-type: none"> <li><b>A continuous concrete beam is required to deal with "uplift" and the "air tight" seal. Mechanical equipment requires a concrete pad and underground vault sections to supply inflation air.</b></li> </ul>

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### ***Lighting / Ceiling Support***

Steel Fabric Structure	Air-Supported Structures
<ul style="list-style-type: none"> <li>▪ Superior truss strength supports several types of lighting and heating systems as well as signage or a host of other ideas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Due to bouts of depressurization, nothing should be hung from ceiling in order to safeguard users.</b></li> </ul>

### ***Entrances***

Steel Fabric Structure	Air-Supported Structures
<ul style="list-style-type: none"> <li>▪ Industry standard doors with tempered glass, closures, and hardware are utilized on our buildings.</li> <li>▪ Larger overhead doors can be installed conventionally throughout the structure, without the necessity of air locks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Requires "air locks" for large vehicle entrances.</b></li> <li>▪ <b>For the primary entrance, a double door airlock or revolving door is necessary, making it difficult to accommodate high traffic flow.</b></li> </ul>