

# What's the Difference Between an Air-Inflated Structure and an Air-Supported Structure?



AIR-SUPPORTED STRUCTURES

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Here at The Farley Group, we create air-supported structures. But as with any unique type of structure, the terminology can be confusing. If you're a stickler for language, you might be interested to know that there is actually a difference between an air-inflated structure and an air-supported structure.

Yes, technically they should mean the same thing, but the English language tends to not play by the rules. Just look at the word "colonel," if you need an example of English's oddities.

So, if they're not the same thing, what are they?

[Air-inflated structures](#) (a.k.a., inflatable buildings) create space by inflating beams, arches, ceilings and walls, whereas it's the entire structure that traps the air with an air-supported structure.

Still confused? Well as an example, think about an inflated bouncy play castle. That would technically be an air-inflated structure. The air is trapped within the membranes of the walls themselves and the space to be occupied by people is open to the outside atmosphere.

An air-supported structure traps the air in the usable space of the structure, which means that the interior has a slightly higher air pressure than outside.

Air-inflated structures, therefore, don't need controlled entrance and exit points as air-supported structures do. The air should stay trapped between the membranes without the need for airlocks.

While the two types of air structures both have benefits, there are reasons why you would pick one over the other.

Air-supported structures are better suited for large structures, like those needed for indoor sports or to cover large areas. The Farley Group's air-supported structures are created for things like soccer fields, large swimming pools, tennis facilities, and multisport facilities where large clear-span space is necessary.

Air-supported structures are also better able to withstand the forces of nature than inflatable buildings. A concrete grade beam is part of the foundation and is needed not just to help seal the air in, but to give added strength and support to anchor a dome in place. Also, the air pressure in an air-supported structure can be modulated to fit the needs of whatever the weather is doing. This adaptability makes it possible to better prepare and still be confident that the dome will withstand the test of time.

Air-inflated structures are better purposed for smaller, portable uses. They typically don't have a foundation so they can be set up and taken down anywhere. Typically, where you might use a tent, you could use an air-inflated building instead.

While air inflated buildings share some of the same principles, they are quite different from air-supported structures. Each type of structure has its own purpose, as well, so it's difficult to compare the two. Because the two are so different, though, it's important to get the terminology right!

**Throughout the process, The Farley Group is here to help along the way. You can research at your own pace in our [digital resource library](#), and when you're ready, reach out to us to discuss how to make your unique dome vision a reality.**