Cable Design Comparison

The Arizon grid system prevents movement of the structure in high winds and decreases stress on the fabric, increasing safety factors and extending the life and usability of the structure.

	Radial Cable System	Full Cable Grid	Low Bias "Diamond" System
			
General Description	The radial cable design has the widest cable spacing of the three designs. Since this design has minimal cabling, it is generally used for seasonal air structures to reduce the work involved in the annual removal of the dome from its site.The radial cable system keeps the fabric envelope in place, but the entire structural load that is placed on the dome is carried by the fabric envelope.	The geodesic cable pattern of this dome carries most of the domes structural load. Extreme wind loads are evenly transferred by the cable system to the dome anchorage and foundation. This ensures that only a small portion of the dome's structural load is carried by the dome's fabric (about 15 lbs PSI fabric load).	The unique design of the Low Bias "Diamond" Cable system offers structural stability, safety and longevity— making it an easily adaptable upgrade from the radial cable design. The cables in this system form a diamond-shaped pattern on all four sides of the air-supported structure so that a significant portion of the dome's structural load is carried by the exterior cable system instead of by the fabric. This provides a much lower stress load on the dome's exterior fabric envelope.
Code Compliance	Meets IBC Codes; 4 times minimum safety factor required by code	Meets IBC Codes; 50 times minimum safety factor required by code	Meets IBC Codes; 20 times minimum safety factor required by code
Wind & Snow Load	140 MPH Wind Design 5-7 psf. snow load	180 MPH Wind Design 50 psf. snow load	160 MPH Wind Design 25 psf snow load
	Wind Design is based on building classification II per ASCE 7-10		
Structure Type	Seasonal Applications	Seasonal or Permanent Applications	Seasonal or Permanent Applications
Design Shape	Tenioned cables in one direction across the barrel of the building	Geodesic pattern that provides the highest level of fabric stress relief.	Diamond crossing pattern offering both radial & lateral support