



To our valued partners,

We know that COVID-19 is more easily transmitted in closed areas, where there's less ventilation or room for airflow, than outdoors.

But you might've wondered, as we have, how this applies in our domes. **Does the risk of transmission increase inside a dome, or is it more like being outside?**

Here are a few key facts about ventilation and airflow inside a Farley dome:

1. **The Air Quality In a Dome Resembles Outdoor Conditions.**

A typical dome contains 500,000 to 5,000,000 cubic feet of air; for a topical comparison, a typical classroom contains just 6,000 cubic feet of air.

Bo Jackson's Elite Sports - Lockport approx volume: 4,546,747 cubic feet

2. **Dome Ventilation Is Remarkably Better Than In Most Buildings.**

Under ASHRAE standards, a normal classroom's ventilation is designed to move 222 cubic feet of air per minute; domes have a minimum of 50 times more outside fresh air!

3. **There's Tons of Room To Breathe In a Dome.**

At 6-foot social distance, a dome provides about 800 cubic feet of ventilation air per person per minute; a typical classroom with 20 students would provide 11 cubic feet.

Gerald N. Catt, Professional Engineer, has prepared a brief report on the advantages of domes over conventional buildings in preventing the spread of COVID-19. Read his analysis of dome ventilation and air turnover in the report below.

For more information, please email us at info@thefarleygroup.com or call us at 1-888-445-3223.

Thank you,

The Farley Group
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To whom it may concern.

When compared to conventional buildings, air supported structures have many advantages in preventing the spread of Covid-19.

The indoor air quality in Air Supported Structures resembles outdoor conditions. A typical dome contains 500,000 to 5,000,000 cubic feet of air. A normal 20' x 30' classroom contains 6,000 cubic feet of air.

Air Supported Structures have a typical fresh air turn over from 1.5 to 3 hours. 666,666 to 3,333,333 cubic feet of air per hour. The air holding up the Air Supported Structure is always escaping, requiring replacement outside air to continue holding up the structure.

Applying ASHRAE Standard 62.1-2016 Ventilation for Acceptable Indoor Air Quality, a conventional 20' x 20' classrooms are designed to 222 cfm of ventilation air. 13,320 cubic feet per hour. This is 10 cfm of air per person plus 0.12 cfm per square foot of floor area.

Air Supported Structures have a minimum of 50 times more outside fresh air. Thus, indoor air quality resembles that of the outside environment.

When compared to conventional buildings, Air Supported Structures have very low occupancy density. Typical classrooms have 1 student per 200 cubic feet of air. At a reduced occupancy of 20 students per classroom, there is 300 cubic feet of air for each student. Total Ventilation air provided, as per ASHRAE Standard 62.1, is about 11 cfm per person.

A typical Air Supported structure would have approximately 800 cfm of ventilation air per person at 6' social distancing.

Air Supported Structures are ideal indoor setting for preventing the spread of Covid-19.

Gerald Catt P. Eng. BDS. GSC

Gerald Catt

