

DynaMax® +
AirAssure® Ceiling Panels

# Stronger Together!

## Less Leakage

### High Strength Solutions To Reduce Ceiling Air Leakage

Data Centers come with their own set of design challenges. See how reducing ceiling air leakage can lead to energy savings.

DynaMax® data center suspension systems and Ultima® AirAssure® ceiling panels provide increased air pressure management, reduced leakage, and enable the best hot and cold air containment at the ceiling plane when compared to drilled hole or slotted strut ceilings with standard ceiling panels.

#### **Energy Savings Potential**

- More efficient cooling
- Reduced top of rack temperatures
- Reduced hot air recirculation
- Lower CFM

DynaMax® & DynaMax® Plus

Reduces leakage by eliminating drop rod penetrations

Ultima® AirAssure®

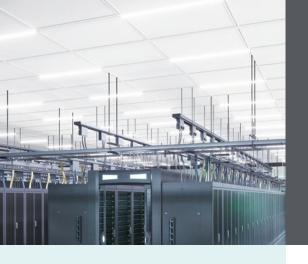
Factory-gasketed edges reduce leakage by providing a tighter fit between ceiling panels and the suspension system

80%

DynaMax / AirAssure Combined Estimated Reduced air Leakage

Experience, Above All™

Armstrong®
World Industries



## DynaMax® + AirAssure® High Strength Data Center Solutions



DvnaMax®

### Air & Temperature Containment Study

To better understand the air and temperature containment benefits of DynaMax® grid system with Ultima® AirAssure® ceiling panels, a 2022 simulation study was used to compare leakage rates with that of standard ceiling panels. The study's scenario was a 25,600 sq-ft. data center with concrete floors.

Learn more from Your Armstrong Ceiling Solutions Rep

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### Study Input Variables

,	Variable	Value & [Units]	
	Building & Layout		
	Total Zone Area	25,600 [ft²]	
	Heat load per Rack	10 [kW]	
	Racks per Aisle	30	
	Number of Aisles in Zone	44	
	Heat Load from Roof	O [Btu/h] (Assumed)	
	Heat Load from Walls	O [Btu/h] (Assumed)	
	Misc. Heat Loads	O [Btu/h] (Assumed)	

Variable	Value & [Units]			
Ceiling System				
Pressure Different Across Ceiling System	0.020 [in WC]			
Size of a Ceiling System Repeating Unit	128 [ft²]			
Crack Length per Repeating Unit	152 [ft²]			
Water Side				
Chilled Water Supply Temperature	55 °F			
Chilled Water Temperature Rise	10 °F			
Air Side				
Supply Air Temperature	65 °F			
Hot Aisle Temperature	82 °F			

Standard

#### Study Output & Results

Variable	Suspension System + Acoustical Panels	DynaMax® Plus + Ultima® AirAssure® Panels
Ceiling Leakage per Unit Crack Length at Pressure [cfm/ft]	0.65	0.11
Heat Removed [MW]	13.2	13.2
Total Airflow [cfm]	2,475,000	2,456,000
Airflow Through Rack [cfm]	2,453,000	2,453,000
Leakage Airflow Through Ceiling System [cfm]	19,700	3,400
Percentage of Air Leaking Through Ceiling (bypassing the racks cf. Total airflow [%]	0.80%	0.10%
Fan Energy Fraction Due To Reduced Total Airflow Rate [unitless]	1 (reference)	0.98