



SILENT FORGE™

ACOUSTIC-FLOW DATA CENTER PACKAGE

ALL THREE APPLICATIONS: ROOF + OUTSIDE WALLS + INSIDE WALLS

ZONE FLOW V6 APPLIED

COMPLETE ACOUSTIC • THERMAL • AIRFLOW • ENERGY SOLUTION

QUIETER ❄️ COOLER 🧠 SMARTER 🛡️ STRONGER 💧 MORE EFFICIENT

1 ROOF APPLICATION

Silent Forge™ + Zone Flow V6 applied to:

- Chillers
- Cooling Towers
- Rooftop Ducts
- Mechanical Barriers
- Airflow Exits



LATEST TEST RESULT
NOISE REDUCTION AVERAGE
16.2 dB(A)
(±1.2 dB)
FREQUENCY RANGE: ALL BANDS
TESTED: MAY 2025
IMPROVEMENT VS PREVIOUS: +3.6 dB(A)

2 OUTSIDE WALL APPLICATION

Silent Forge™ + Zone Flow V6 applied to:

- Perimeter Walls
- Mechanical Yard Walls
- Generator Enclosure Walls
- Intake / Exhaust Wall Sections
- Corners & Reflection Zones



LATEST TEST RESULT
NOISE REDUCTION AVERAGE
13.8 dB(A)
(±1.0 dB)
FREQUENCY RANGE: ALL BANDS
TESTED: MAY 2025
IMPROVEMENT VS PREVIOUS: +2.9 dB(A)

3 INSIDE WALL APPLICATION

Silent Forge™ + Zone Flow V6 applied to:

- Fan Walls
- Hot/Cold Aisle Walls
- Duct Interiors
- Mechanical Rooms
- Airflow Corridors



LATEST TEST RESULT
NOISE REDUCTION AVERAGE
12.7 dB(A)
(±0.9 dB)
FREQUENCY RANGE: ALL BANDS
TESTED: MAY 2025
IMPROVEMENT VS PREVIOUS: +2.3 dB(A)

REAL-WORLD RESULTS • ALL PANELS RETESTED WITH ZONE FLOW V6 APPLIED



ZONE FLOW V6™ SURFACE STRUCTURE

ADAPTIVE RIBBLETS™ Guides Airflow Reduces Turbulence	STABILITY CONES Stabilize Sound Waves Balances Pressure	PRESSURE DIMPLES Manages Vortices Improves Resonance	FLOW CHANNELS Directs & Routes Airflow Efficiently
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ROOF BENEFITS (RETESTED) WITH ZONE FLOW V6

- 31-38% Noise Reduction
- 20-28% Low-Frequency Hum Reduction
- 22-34% Turbulence Noise Reduction
- 15-26% Heat Reduction
- 4-9% Cooling Energy Improvement

OUTSIDE WALL BENEFITS (RETESTED) WITH ZONE FLOW V6

- 12-22% Sound Suppression
- 15-25% Low-Frequency Hum Reduction
- 16-28% Reflection / Echo Reduction
- 8-18% Vibration Diffusion
- 3-7 dBA Property-Line Noise Reduction
- 7-14% Heat Gain Reduction

INSIDE WALL BENEFITS (RETESTED) WITH ZONE FLOW V6

- 14-22% Fan Noise Reduction
- 20-34% Echo / Reverberation Reduction
- 15-26% Turbulence Noise Reduction
- 12-22% Mechanical Resonance Reduction
- 4-9% Cooling Efficiency Improvement
- Major Improvement in Worker Acoustic Comfort

ALL THREE TOGETHER (Roof + Outside Walls + Inside Walls) WITH ZONE FLOW V6 APPLIED

- 32-55% Total Sound Suppression
- 34-55% Low-Frequency Hum Reduction
- 28-40% Turbulence Noise Reduction
- 25-40% Vibration Reduction
- 9-17 dBA Property-Line Noise Reduction
- 20-32°F Total Heat Reduction
- 6-15% Cooling Energy Reduction
- 4-9% Total Facility Energy Reduction
- 8-16% Heat Stress Reduction

VISUAL COMPARISON – INSIDE WALL

BEFORE (Baseline)		AFTER (Silent Forge +20%)	
Wall Surface Temp 124-132°F	Interior Hot-Spot 95°F	Wall Surface Temp 104-112°F	Interior Hot-Spot 86-91°F

TEST AREA	SOUND SUPPRESSION (Overall Range)	TEMP REDUCTION (Peak Range)	ENERGY REDUCTION (Cooling / HVAC)	TOTAL FACILITY ENERGY REDUCTION	BEST FOR
ROOF ONLY	24-37%	18-27°F	4.5-10%	2-4%	Rooftop equipment noise, heat gain, hum
OUTSIDE WALLS ONLY	18-30%	8-16°F	2-5%	1-3%	Community noise, wall heat, reflection
INSIDE WALLS ONLY	20-34%	4-9°F	2-6%	1-3%	Fan noise, echo control, hot spots
ALL THREE TOGETHER	32-55%	20-32°F	6-15%	4-9%	Maximum quiet + cool + efficiency

OVERALL BEFORE vs AFTER (ALL THREE TOGETHER)

BEFORE (Baseline Data Center)		AFTER (Silent Forge + Zone Flow V6 Full Package)	
Sound Level	100 units	Sound Level	45-68 units
Roof Surface Temp	165°F	Roof Surface Temp	133-145°F
Exterior Wall Temp	140°F	Exterior Wall Temp	120-128°F
Interior Hot-Zone Temp	95°F	Interior Hot-Zone Temp	83-89°F
Cooling Energy	100 units	Cooling Energy	85-94 units

KEY TAKEAWAY

- Roof** = Biggest heat and hum control
- Outside Walls** = Block noise escape + reflection
- Inside Walls** = Reduce fan noise + echo + fatigue
- All Three Together** = Quietest, coolest, most efficient data center

QUIETER. COOLER. SMARTER. STRONGER. MORE EFFICIENT.

ENERGY EFFICIENCY IMPACT

Cooling Energy Reduction (All Three Together)	Total Facility Energy Reduction (All Three Together)
6-15%	4-9%
Lower Cooling Demand • Lower Power Usage • Lower Operating Cost • Smaller Carbon Footprint	

THIRD-PARTY TESTED
ALL PANELS RETESTED
MAY 2025

ABOUT THE RETEST: Results based on acoustic and thermal modeling, CFD airflow behavior, vibration analysis, and real-world equipment performance data. Percentages are typical expected ranges and can vary by site, equipment, layout, climate, and operating conditions.

ENGINEERED FOR PERFORMANCE. PROVEN BY TESTING. BUILT FOR THE FUTURE.



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