

The A&D Specification Checklist:
Acoustic Performance & Surface Integration

A Quick-Reference Technical Guide for Specifying High-NRC Wall Treatments in Hospitality,
Corporate, and Multifamily Architecture

Published By:

Dress Your Walls | Architectural Surface Solutions

THE
WALLPAPER
COMPANY

Section 1:

Core Acoustic Metrics & Formulas

[Total Absorptive Area (A)]

Required Coverage = _____

[Material Surface NRC Rating]

- **Noise Reduction Coefficient (NRC):** Measures average absorption across 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz. Scale ranges from 0.00 (100% sound reflection) to 1.00 (100% sound absorption).
- **Reverberation Time (RT₆₀):** The time (in seconds) required for ambient sound pressure to decay by 60 dB.
- **Target RT₆₀ Calculation (Sabine Formula):**

$$RT_{60} = \frac{0.161 \times V}{A}$$

Where *V* = Room Volume in m³ and *A* = Total Equivalent Absorption Area in m².

Section 2:

Space-by-Space Acoustic Specification Matrix

Building Sector / Space Type	Primary Noise Source	Target RT60 (Seconds)	Recommended Material Solution	Target Surface Coverage Ratio
Fine Dining & Main Dining Rooms	High-frequency conversation, clattering tableware, kitchen spillover	0.8 – 1.1 s	Micro-Perforated Wood Veneer or Acoustic Felt Wallcovering	30% – 40% of total vertical wall area

Building Sector / Space Type	Primary Noise Source	Target RT60 (Seconds)	Recommended Material Solution	Target Surface Coverage Ratio
Hotel Lobbies & High-Ceiling Atriums	Foot traffic, echoing reverberation across hard floors/glass	1.2 – 1.5 s	Micro-Perforated Wood Veneer with Integrated Acoustic Core	25% – 35% of primary reflection walls
Corporate Boardrooms & Video Suites	Low/mid-frequency voice echo, AV speaker bounce	0.5 – 0.7 s	Seamless Acoustic Felt panels + Micro-Perforated Monitor Backdrops	40% – 50% of non-glazed vertical planes
Multifamily Corridors & Amenity Lounges	Continuous foot traffic, door closures, ambient chatter	0.7 – 0.9 s	High-Durability Acoustic Contract Vinyl	50% – 65% of perimeter walls

Section 3:

Substrate Preparation & Field Installation Standards

To maintain sound absorption properties and protect material warranties, installer teams must follow these wall preparation guidelines:

- Substrate Level:** Drywall must be finished to **Level 4 or Level 5 finish** (ASTM C840 standards) to eliminate telegraphing through felt or veneer backings.
- Moisture Content & Sizing:** Substrates must exhibit a moisture content below 4% (measured via electronic moisture meter). Apply an acrylic, heavy-duty wallcovering primer/sealer (such as ROMAN PRO-977) 24 hours prior to installation.

3. **Adhesive Selection:** Use premium heavy-duty clear wallcovering adhesives (ROMAN ECO-888 or equivalent) formulated for high-tack, heavy-gauge acoustic materials.
4. **Pattern & Seam Logic:**
 - *Felt/Tex decor Fabrics:* Double-cut or butt-seam as specified by the roll layout; perform seam-rolling with soft acrylic rollers to avoid crushing fibers.
 - *Micro-Perforated Wood:* Maintain hairline joint alignment with expansion gaps as specified per panel detail drawing.

Section 4:

Fire & Testing Code Compliance Checklist

Before submitting submittal packages to local authorities having jurisdiction (AHJ), verify that your wallcovering specs include these compliance certifications:

- [] **Flame Spread & Smoke Development:** Must pass **ASTM E84 Class A** (Flame Spread Index ≤ 25 , Smoke Developed Index ≤ 450).
- [] **Acoustic Performance Laboratory Test:** Must provide **ASTM C423** testing reports conducted by an accredited third-party acoustical laboratory.

Section 5:

Submittal & Project Support

Need Project-Specific Take-Offs, Technical Specs, or Physical Samples?

Our A&D Specification Directors assist with quantity calculations, dye-lot matching, and custom acoustic sample kit preparation.

Contact Trade Support Today:

-  **Email:** Trade@TheWallpaperCompany.com
-  **Direct Specifier Line:** 305-351-6048