

ARCHITECTURAL INTEGRATION MODEL

TECHNICAL IMPLEMENTATION & SPECIFICATIONS GATEWAY

SPECIFICATION LEVEL: CSI
MasterFormat
DOCUMENT REF: AIM-2026-V1

EXECUTIVE PURPOSE & ARCHITECTURAL VALUE PROPOSITION

This integration model establishes a standardized technical workflow designed to seamlessly embed specialized products, performance data, and structural assemblies into the architectural design pipeline. Built specifically for Principal Architects, Lead Specifiers, and Facade Engineers, this framework accelerates design approvals, simplifies compliance verification, and guarantees seamless MasterFormat integration.

CSI 3-PART

FULL SPEC ALIGNMENT

LOD 350+

BIM / REVIT MODELS

ISO 17025

VALIDATED TEST DATA

< 24 HRS

SPEC REQUEST TURNAROUND

1. ARCHITECTURAL WORKFLOW INTEGRATION PHASES

1

Schematic Design (SD)

Rapid parametric preliminary models, preliminary U-value / SHGC sizing calculators, and early-stage aesthetic/performance trade-off matrices.

2

Design Development (DD)

LOD 350 BIM object insertion, custom detail CAD DWG downloads, structural load validation, and acoustic (STC/OITC) performance modeling.

3

Construction Documents (CD)

Fully edited CSI MasterFormat 3-Part specifications, engineering calculations, substitution allowance letters, and mock-up testing guidelines.

4

Bidding & Construction (CA)

Direct shop drawing review assistance, subcontractor coordination packages, substitution defense data, and site quality assurance protocols.

2. CSI MASTERFORMAT SECTION ALIGNMENT

altos

Section Code	MasterFormat Title	Deliverable Artifact	Compliance Focus
08 44 00	Glazed Curtain Walls	Parametric Detail Sections, Thermal Break Data	ASTM E283 / E330 / E331
08 80 00	Glazing Assemblies	NFRC Certified Glass Reports, Spectral Data	ASHRAE 90.1 / IECC
08 42 00	Entrances & Storefronts	Structural Calculations & Deflection Models	IBC Structural Criteria
07 42 00	Wall Panels / Rainscreens	Acoustic Test Certificates, Air/Water Seals	ASTM E90 / STC Ratings
01 81 13	Sustainable Design Requirements	EPD, HPD, and LEED v4.1 Documentation	Material Health & Carbon

3. TECHNICAL DELIVERABLES & BIM SPECIFICATION MATRIX

BIM / REVIT MODEL INTEGRATION (LOD 350)

All components are provided as native Revit (.RFA) and IFC files with standardized COBie data fields. Geometry contains detailed mounting interface locations, structural clearances, thermal breaks, and exact physical dimensions without bloating project file size.

ENVIRONMENTAL & SUSTAINABILITY DATA

Complete transparent documentation including Product-Specific Environmental Product Declarations (EPD), Health Product Declarations (HPD), and direct carbon footprint metrics supporting LEED v4.1, BREEAM, and Living Building Challenge credits.

INTEGRATED TECHNICAL DATA FLOW ARCHITECTURE



4. COMPLIANCE & PERFORMANCE METRICS MATRIX

Performance Parameter	Testing Standard	Target Baseline Metric	Verification Artifact
Thermal Transmittance	NFRC 100 / ASTM C1363	U-Factor ≤ 0.20 Btu/h·ft²·°F	Third-Party Certified NFRC Report
Solar Heat Gain (SHGC)	NFRC 200 / ISO 9050	SHGC 0.22 – 0.38 (Tunable)	Spectrophotometric Test Matrix
Air Infiltration	ASTM E283	< 0.06 cfm/ft² @ 1.57 psf	Chamber Test Certification
Water Penetration	ASTM E331 (Static)	15.0 psf (No Uncontrolled Leakage)	Laboratory Water Test Log
Acoustic Performance	ASTM E90 / E413	STC ≥ 38 / OITC ≥ 32	NVLAP Accredited Sound Test

5. SPECIFIER SUPPORT & DIRECT ENGAGEMENT PROTOCOLS

To ensure zero frictionless spec writing, the website provides architects with direct concierge-level technical assistance. Specifiers can request custom detail modifications, engineering review stamps, and tailored section edits directly through the portal with a guaranteed 24-hour turnaround.

Custom DWG Details

Request custom project-specific detail CAD files for complex transition zones.

Engineering Review

Pre-submission structural and thermal feasibility review by internal specialists.

CEU / AIA Seminars

On-demand registered AIA Learning Units (LU/HSW) for studio lunch & learns.

6. SAMPLE CSI MASTERFORMAT SPECIFICATION SNIPPET (PART 2)

Below is a standardized Part 2 Product specification section ready for direct copy/paste into architectural project manuals:

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SECTION 08 80 00 - GLAZING ASSEMBLIES PART 2 - PRODUCTS 2.01 HIGH-PERFORMANCE GLAZING UNITS
A. Manufacturer: [Insert Brand / Website Name] - Technical Support Contact: [spec@website.com] B. Performance Requirements: 1. Thermal Transmittance (U-Factor): NFRC 100 rating not exceeding 0.18 Btu/h sq ft F. 2. Solar Heat Gain Coefficient (SHGC): NFRC 200 rating not exceeding 0.25. 3. Visible Light Transmittance (VLT): Minimum 62 percent. 4. Outdoor-Indoor Transmission Class (OITC): ASTM E90 STC 40 minimum. C. Fabrication Tolerances: In compliance with ASTM C1036 and ASTM C1172 standard s. D. Warranty: Manufacturer's standard 10-year comprehensive warranty against seal failure and visual defects.
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7. ON-SITE PORTAL TECHNICAL ARCHITECTURE

PORTAL FEATURE: ARCHITECT SPEC HUB Key Capability: Single-click bulk downloads. Architects select performance parameters (e.g., target U-value, frame depth, acoustic threshold), and the portal dynamically bundles: - Project-specific CSI 3-Part Spec (.DOCX) - Revit Family Pack (.RFA) - Detail Drawings (.DWG & .PDF) - Test Certificates & EPD Data (.PDF)	PORTAL FEATURE: LIVE CALCULATOR ENGINE Key Capability: Real-time performance calculation. Allows design professionals to calculate thermal payoff, solar control metrics, and structural glass thickness allowances online without requiring third-party engineering software: - Instant ASHRAE 90.1 Compliance check - Custom assembly U-factor calculator - Acoustic isolation estimation tool
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8. IMPLEMENTATION ROADMAP & ARCHITECT ENGAGEMENT NEXT STEPS

RECOMMENDED PORTAL ROLLOUT PHASES

Phase 1: Technical Content Standardization (Weeks 1–3): Format all CAD details, BIM models, and CSI specifications into accessible downloads.

Phase 2: Architectural Portal Launch (Weeks 4–6): Deploy the Specifier Hub and integrated online calculator engines onto the website.

Phase 3: AIA CEU Program & Studio Outreach (Weeks 7+): Launch registered AIA webinars and direct outreach to top specification and facade engineering firms.

READY TO DEPLOY FOR YOUR WEBSITE?

Contact our technical engineering team for custom site integration, API access, or tailored BIM content creation.

