ARCHITECTURAL INTEGRATION MODEL

Technical Implementation & Specification Gateway

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

THERMGLASS - thermglass.com

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	LOD 350+	ISO 17025	< 24 HRS
Full spec alignment	BIM / Revit models	Validated test data	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

CSI SECTION CODE	MASTERFORMAT TITLE	DELIVERABLE ARTIFACT	COMPLIANCE FOCUS
08 44 00	Glazed Curtain Walls	Parametric detail sections, thermal break data	ASTM E283 / E330 /
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

1 Product Site Engine
Interactive specs & calc

2 Automated Engine
DWG / RFA / CSI generation

3 Arch Studio Model
Revit project insertion

4 CD Package
Approved specs & bid

4. COMPLIANCE & PERFORMANCE METRICS MATRIX

PERFORMANCE	TESTING STANDARD	TARGET / BASELINE METRIC	VERIFICATION ARTIFACT
Thermal transmittance	NFRC 100 / ASTM C1363	U-Factor <= 0.20 Btu/h*ft2*degF	Third-party certified NFRC report
Solar heat gain	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	STC: ASTM E90 / E413; OITC: ASTM E1332	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:

SECTION 08 80 00 - GLAZING ASSEMBLIES - PART 2 PRODUCTS

2.1 High-Performance Glazing Units
A. Manufacturer: THERMGLASS (thermglass.com)
Technical Support Contact: spec@thermglass.com
B. Performance requirements:
1. Thermal transmittance (U-factor): NFRC 100 rating not exceeding 0.20 Btu/h*ft2*degF.
2. Solar Heat Gain Coefficient (SHGC): NFRC 200 rating not exceeding 0.25 (project-tuned; tunable range 0.22 - 0.38).
3. Visible Light Transmittance (VLT): minimum 62 percent.
4. Acoustic performance - STC per ASTM E90 / E413: minimum 40; OITC per ASTM E1332: minimum 32.
5. Fabrication tolerances: in compliance with ASTM C1036 and ASTM C1048 standards.
6. Warranty: manufacturer's standard 10-year comprehensive warranty against seal failure and visual defects.

7. ON-SITE PORTAL TECHNICAL ARCHITECTURE

ARCHITECT SPEC HUB — 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), and test certificates & EPD data (.PDF).
LIVE CALCULATOR ENGINE — Real-time performance calculation. Design professionals can calculate thermal payoff, solar-control metrics, and structural glass thickness allowances online without third-party engineering software: instant ASHRAE 90.1 compliance check, custom assembly U-factor calculator, and acoustic isolation estimation tool.

8. IMPLEMENTATION ROADMAP & ARCHITECT ENGAGEMENT

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 SPECIFY FOR YOUR PROJECT?

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

thermglass.com · spec@thermglass.com