

Revision date: 5-Mar-2025

SPEC NOTE: This master specification is written to include SPEC NOTES to assist designers in their decision-making process. SPEC NOTES precede the text to which they apply. This section should serve as a guideline only and should be edited by a knowledgeable person to meet the requirements of each specific Project.

Text indicated in bold and by square brackets is optional. Make appropriate decisions and delete the optional text as well as the brackets in the final copy of the specification. Delete or hide the SPEC NOTES in the final version of the document.

This specification section is written to follow the recommendations of the Construction Specifications Institute/Construction Specifications Canada (CSI/CSC) such as MasterFormatTM, SectionFormatTM, and PageFormatTM. It is also written with metric and imperial units of measurement.

This Specification specifies TAC 2.1.

Corearch Inc. does not practice architecture or engineering. Therefore, the design responsibility remains with the Consultant, engineer, or Consultant. We hope the information given here will be of assistance. It is based upon data considered to be true and accurate and is offered solely for the user's consideration, investigation, and verification. Nothing contained herein is representative of a warranty or guarantee for which Corearch Inc. can be held legally responsible. Corearch Inc. does not assume any responsibility for any misinterpretation or assumptions the reader may formulate.

This specification was developed with the assumption that it will be used with a CCDC standard Contract, as amended by any supplementary instructions. As a result, some words have been capitalized in keeping with CCDC standard definitions. Please change the defined terms and capitalization if this Specification will be used with another type of Contract.

1. GENERAL
   1. GENERAL INSTRUCTIONS
      1. Read and conform to: The general provisions of the Contract, including General and Supplementary Conditions; and the requirements of Division 01 Specifications and any additional documents referred to in this Section.
      2. Contractor is solely responsible for dividing the Work among Subcontractors and Suppliers. Consultant and Owner assume no responsibility to act as arbiters or to establish subcontract limits between Sections or Divisions of the Work. Any references to related work items contained in this Section are provided for convenience only
   2. SUMMARY
      1. Provide labour, materials, Products, equipment and services to complete the cladding support systems work specified herein. This includes, but is not necessarily limited, to:
         1. Thermal assembly clips
         2. Auxiliary materials required for a complete installation.

SPEC NOTE: Edit the list below to reflect the items affected by this Project. Only include in this Paragraph those sections and documents that directly affect the work of this section. If a reader could reasonably expect to find a product or component specified in this section, but it is specified elsewhere, then list the related section number(s) in the Paragraph below. Do not include Division 00 Documents or Division 01 Sections since it is assumed that technical sections are all related to Division 00 Documents and Division 01 Sections to some degree.

* + 1. Related Requirements: Specifications throughout all Divisions of the Project shall be read as a whole, and may be directly applicable to this Section.
       1. Related requirements provided below are for convenience purposes only.
          1. Section 07 21 00 – Thermal Insulation
  1. REFERENCES
     1. Reference Standards: Unless otherwise indicated in this Section or the Building Code, the latest published editions of reference standards as of the Project's Bid Closing deadline apply.

SPEC NOTE: Pare down the paragraphs below to only include references which appear in the final version of the Specification.

* + - 1. ASTM International (ASTM)
         1. ASTM A123/A123M: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
         2. ASTM A153/A153M: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
         3. ASTM A653: Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
      2. CSA Group (CSA)
         1. CSA G164: Hot dip galvanizing of irregularly shaped articles
         2. CSA Z5010: Thermal bridging calculation methodology
  1. PREINSTALLATION MEETINGS
     1. General Requirements and Procedures for Project Meetings: in accordance with Section **[01 31 19, Project Meetings]**.
     2. Pre-installation Meetings: Pre-installation Meetings: Schedule and hold a pre-installation meeting at the Project site at least one week before beginning work on this Section to coordinate activities with related Subcontractors.
        1. Ensure attendance of Subcontractor performing work of this Section, as well as representatives from manufacturers and fabricators involved in or affected by installation. Notify Consultant and Owner of scheduled meeting dates in advance.
        2. Agenda:
           1. Review progress of related construction activities and preparations for particular activity under consideration.
           2. Make note of required sequencing and coordination with materials and activities that have preceded or will follow.
        3. Record significant discussions, agreements, and disagreements, including required corrective measures and actions.
        4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information not more than 72 hours after meeting.
  2. SUBMITTALS
     1. General Requirements and Procedures for Submittals: in accordance with Section **[01 33 00, Submittal Procedures]**.
     2. Product Data: Submit manufacturer’s product characteristics, catalogue cuts, installation instructions and other relevant information for each material and product used for cladding support systems work specified in this Section.
     3. Shop Drawings: Submit Shop Drawings indicating material layouts, details of construction, connections, and relationship with adjacent construction.

SPEC NOTE: Update the text in square brackets below to reflect the province in which the project is located.

* + - 1. Submit Shop Drawings for work of this Section that bear the stamp of a Professional Engineer registered in Province of **[Ontario][Specify Province]**.
      2. Submit copy of structural calculations upon request by Owner’s Representative.

SPEC NOTE: Update the text in square brackets below to reflect the appropriate thermal energy code applicable to the project.

* + 1. Thermal Performance Report: Submit analysis report produced by third-party engineering firm demonstrating that envelope assemblies, including framing components, as proposed, meet thermal performance requirements established by **[Ontario Building Code Supplementary Standard SB10] [Model National Energy Code of Canada][ASHRAE 90.1]**. As a minimum, report must include the following:
       1. Each wall’s nominal R-value, clear wall U-value and effective R-value.
       2. Clip spacing (vertical and horizontal).
       3. Maximum allowable wind loads.
       4. Cladding dead loads.
       5. Fastener type.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Provide Products for work of this Section by manufacturer with at least 10 years’ experience manufacturing such materials.
     2. Installer Qualifications: Engage an entity with sufficient experience installing, erecting, or assembling work similar in material, design, and extent to that shown on Drawings and Schedules, and whose work has resulted in construction with a track record of successful in-service performance.
     3. Single Source Responsibility: Obtain primary materials for this Section from a single source by a single manufacturer, and secondary materials from sources recommended by manufacturers of primary materials.
  2. DELIVERY, STORAGE AND HANDLING
     1. General Product Requirements: in accordance with Section 01 61 00, Common Product Requirements.
     2. Deliver, store and handle cladding support systems materials in accordance with manufacturer’s written instructions.
     3. deliver materials to site in original factory packaging, labelled with manufacturer’s name and address.
  3. WARRANTY
     1. Extended warranty: Submit for Owner’s review and acceptance, manufacturer’s extended warranty in which manufacturer commits to repair or replace components of cladding support systems that fail within specified warranty period. Manufacturer’s extended warranty is in addition to, and does not supersede, any other rights that Owner may have under Contract Documents.
        1. Warranty Period: 10 years from date of Substantial Performance of The work.
        2. Warranty Scope: Materials only

1. PRODUCTS
   1. MANUFACTURERS
      1. Basis-of-Design: Materials specified in this Section are based on TAC 2.1 as supplied by Corearch Inc; 109 Dupont Avenue; Tel: 1 ((416) 749-2624); Web: [www.corearch.ca](http://www.corearch.ca)
      2. Substitution Limitations: No further substitutions are acceptable.
   2. PERFORMANCE / DESIGN CRITERIA
      1. Thermal clip system must meet thermal performance criteria specified in this Section without compromising assembly's structural integrity, fire performance, or moisture management capabilities.

SPEC NOTE: Update the text in square brackets below to reflect the appropriate thermal performance criteria for the project. Refer to TAC 2.1 Thermal Assembly Clip Thermal Analysis report prepared by Morrison Hershfield (Now Stantec) and available upon request to establish assemblies’ R-values and U-values.

* + 1. Thermal clip system must meet following thermal performance criteria, validated through thermal modeling and analysis performed in accordance with CSA Z5010.
       1. Assembly Type: **[Exterior insulated steel stud wall assembly] [Split insulated steel stud wall assembly]** **[Exterior insulated concrete block wall assemblies]** **[As indicated on Drawings]**
       2. Girt Orientation: **[Horizontal][Vertical]**
       3. Effective R-value: **[R??]** ft2-hr-deg F/Btu
       4. Nominal R-value: **[R??]**ft2-hr-deg F/Btu
       5. Overall U-value: **[0.??]** W/m²K
       6. Horizontal Bracket Spacing: 406 mm (16 in)
       7. Vertical Bracket Spacing: **[610 mm (24 in)]** **[914 mm (36 in)]** **[1220 mm (48 in)]**
  1. THERMAL ASSEMBLY CLIPs
     1. Low-conductivity thermally-broken, intermittent structural attachment insulation clips designed to maintain insulation effectiveness, with adjustable depth and suitable for vertical and horizontal sub-girts.
        1. Material: Cold-formed ASTM A653 Type-B G90, 14-gauge galvanized steel clip with slotted HDPE thermal pads.
        2. Thermal Assembly Clip: Galvanized steel bracket with slotted HDPE thermal pads; capable of horizontal and vertical orientation.
        3. Rail: Galvanized steel and aluminum, designed for use with thermal assembly clips.
        4. Fasteners: Case-hardened/Carbon steel, Bi-metal, A2&A4 class Stainless Steel, suitable for securing clips and rails to substrate.
        5. Acceptable Products: TAC 2.1 Thermal Assembly Clip System as supplied by Corearch Inc.
     2. Insulation: Refer to Section **[07 21 00, Thermal Insulation]**.

1. EXECUTION
   1. EXAMINATION
      1. Verify actual site conditions and location of adjacent materials prior to commencing work. Notify Consultant in writing of any conditions which would be detrimental to the installation. Commencement of work implies acceptance of previously completed work.
   2. INSTALLATION
      1. Install work of this Section in strict accordance with manufacturer's written installation instructions and reviewed Shop Drawings. Supplement manufacturer's installation instructions with additional installation requirements specified in this Section to produce specified work results.
      2. Install components in plumb, level and square. Maintain dimensional tolerances and alignment with surrounding construction.
      3. Install thermal clips and rails in correct orientation and spacing in accordance with reviewed Shop Drawings and engineering calculations.
      4. Secure mineral wool insulation to exterior wall assemblies ensuring insulation is continuous and joints are tightly butted.
   3. CLEANING AND WASTE MANAGEMENT
      1. Cleaning: Maintain clean construction area at the end of each day. When activities of this Section are complete, remove materials, tools, equipment and rubbish.
      2. Waste Management and Disposal: sort waste for reuse, recycling, or disposal, as specified. Remove recycling bins and containers from site and dispose of contents at the appropriate waste disposal facilities.

END OF SECTION