

the specifications and here we go!

WHAT ARE THE SPECIFICATIONS?

The specifications describe the portions of the Work that cannot be described with Drawings. "Work" includes all that the Contractor has to do to build the Project.

The specifications include the written requirements for MATERIALS, EQUIPMENT, and CONSTRUCTION SYSTEMS, as well as the STANDARDS for products and testing methods and WORKMANSHIP, and the CONSTRUCTION SERVICES necessary to produce the work.

AIA Manual of Practice

The SPECIFICATIONS, along with the CONTRACT FORMS, the GENERAL CONDITIONS of the CONTRACT, and the DRAWINGS constitute the CONTRACT for CONSTRUCTION.

HOW ARE THEY ORGANIZED?

The specifications are organized using a classification system for construction products and activities designed and published by the CSI (Construction Specifications Institute) called **MasterFormat**.

Free PDF: <https://www.edmca.com/media/35207/masterformat-2016.pdf>



THE DIVISIONS

MasterFormat has 50 Divisions, each grouping a type of activities or construction components. Of the 50 Divisions, in our projects we mostly use these:

- Division 00 - Procurement and Contracting Requirements
- Division 01 - General Requirements
- Division 02 - Existing Conditions
- Division 03 - Concrete
- Division 04 - Masonry
- Division 05 - Metals
- Division 06 - Wood, Plastic, and Composites
- Division 07 - Thermal and Moisture Protection
- Division 08 - Openings
- Division 09 - Finishes
- Division 10 - Specialties
- Division 11 - Equipment
- Division 12 - Furnishings
- Division 13 - Special Construction
- Division 14 - Conveying Systems
- Division 32 - Exterior Improvements

THE SECTIONS

Each Division contains "**SECTIONS**" which describe materials and activities; for example, Division 05 Metals, includes a section for decorative metals, another for structural steel, and so forth.

The divisions and sections also describe the portions of the work under the responsibility of each of the members of the Project team, for example:

- The structural engineering consultants sections are in Divisions 03, 04, and 05.
- The civil engineers sections in Divisions 31 - Earthwork, 32 - Exterior Improvements, and 33 - Utilities.

- The mechanical engineers sections Division 21 - Fire Supression, 22 - Plumbing, 23 - HVAC.
- The elevator consultant will use the elevator section in Division 14, and so forth.

Level 2 Numbers and Titles	
08 54 00 Composite Windows	09 61 00 Flooring Treatment
08 55 00 Pressure-Resistant Windows	09 62 00 Specialty Flooring
08 56 00 Special Function Windows	09 63 00 Masonry Flooring
08 60 00 Roof Windows and Skylights	09 64 00 Wood Flooring
08 61 00 Roof Windows	09 65 00 Resilient Flooring
08 62 00 Unit Skylights	09 66 00 Terrazzo Flooring
08 63 00 Metal-Framed Skylights	09 67 00 Fluid-Applied Flooring
08 64 00 Plastic-Framed Skylights	09 68 00 Carpeting
08 67 00 Skylight Protection and Screens	09 69 00 Access Flooring
08 70 00 Hardware	09 70 00 Wall Finishes
08 71 00 Door Hardware	09 72 00 Wall Coverings
08 74 00 Access Control Hardware	09 73 00 Wall Carpeting
08 75 00 Window Hardware	09 74 00 Flexible Wood Sheets
08 78 00 Special Function Hardware	09 75 00 Stone Facing
08 79 00 Hardware Accessories	09 76 00 Plastic Blocks
08 80 00 Glazing	09 77 00 Special Wall Surfacing
08 81 00 Glass Glazing	09 78 00 Interior Wall Paneling
08 83 00 Mirrors	09 80 00 Acoustic Treatment
08 84 00 Plastic Glazing	09 81 00 Acoustic Insulation
08 85 00 Glazing Accessories	09 83 00 Acoustic Finishes
08 87 00 Glazing Surface Films	09 84 00 Acoustic Room Components
08 88 00 Special Function Glazing	09 90 00 Painting and Coating
08 90 00 Louvers and Vents	09 91 00 Painting
08 91 00 Louvers	09 93 00 Staining and Transparent Finishing
08 92 00 Louvered Equipment Enclosures	09 94 00 Decorative Finishing
08 95 00 Vents	09 96 00 High-Performance Coatings
	09 97 00 Special Coatings
DIVISION 09 - FINISHES	
09 01 00 Maintenance of Finishes	
09 03 00 Conservation Treatment of Period Finishes	
09 05 00 Common Work Results for Finishes	
09 06 00 Schedules for Finishes	
09 08 00 Commissioning of Finishes	
09 10 00 Unassigned	
09 20 00 Plaster and Gypsum Board	
09 21 00 Plaster and Gypsum Board Assemblies	
09 22 00 Supports for Plaster and Gypsum Board	
09 23 00 Gypsum Plastering	
09 24 00 Cement Plastering	
09 25 00 Other Plastering	
09 26 00 Veneer Plastering	
09 27 00 Plaster Fabrications	
09 28 00 Backing Boards and Underlaysments	
09 29 00 Gypsum Board	
09 30 00 Tiling	
09 31 00 Thin-Set Tiling	
09 32 00 Mortar-Bed Tiling	
09 33 00 Conductive Tiling	
09 34 00 Waterproofing-Membrane Tiling	
09 35 00 Chemical-Resistant Tiling	
09 40 00 Unassigned	
09 50 00 Ceilings	
09 51 00 Acoustical Ceilings	
09 53 00 Acoustical Ceiling Suspension Assemblies	
09 54 00 Specialty Ceilings	
09 56 00 Textured Ceilings	
09 57 00 Special Function Ceilings	
09 58 00 Integrated Ceiling Assemblies	
09 60 00 Flooring	
	DIVISION 10 - SPECIALTIES
	10 01 00 Operation and Maintenance of Specialties
	10 05 00 Common Work Results for Specialties
	10 06 00 Schedules for Specialties
	10 08 00 Commissioning of Specialties
	10 10 00 Information Specialties
	10 11 00 Visual Display Units
	10 12 00 Display Cases
	10 13 00 Directories
	10 14 00 Signage
	10 17 00 Telephone Specialties
	10 18 00 Informational Kiosks
	10 20 00 Interior Specialties
	10 21 00 Compartments and Cubicles
	10 22 00 Partitions
	10 25 00 Service Walls
	10 26 00 Wall and Door Protection
	10 28 00 Toilet, Bath, and Laundry Accessories
	10 30 00 Fireplaces and Stoves
	10 31 00 Manufactured Fireplaces
	10 32 00 Fireplace Specialties
	10 35 00 Stoves
	10 40 00 Safety Specialties
	10 41 00 Emergency Access and Information Cabinets
	10 43 00 Emergency Aid Specialties
	10 44 00 Fire Protection Specialties
	10 45 00 Photoluminescent Exit Specialties
	10 50 00 Storage Specialties
	10 51 00 Lockers
	10 55 00 Postal Specialties
	10 56 00 Storage Assemblies

THE INFORMATION IN THE SECTIONS

EACH section has three parts with the following information as applicable to the product or activity described in the section:

PART 1 GENERAL

- The summary of the section contents,
- The requirements for the pre-construction meetings, if any.
- The list of submittals required from the Contractor to make sure it is providing what it is asked from it.
- The quality assurance requirements (actions required **before** the components are installed to make sure they work)
- Delivery, storage, and handling of the materials and products
- Field limitations, that is field conditions required for the installation of the products.
- Coordination with among construction components.
- Product warranties.

PART 2 PRODUCTS

- Performance requirements of the products.
- Description of the product including BASIS OF DESIGN MANUFACTURER or PRODUCT and comparable products.
- Descriptions of the materials in the product, and accessories needed to install the product, fabrication requirements, and finishes.

PART 3 EXECUTION

- Examination of the field conditions before installation or application of the product.
- Preparations to receive the product.
- Installation requirements.
- Tolerances.
- Field quality control requirements (actions required **after** the components are installed to make sure they work)
- Cleaning and protection of the installed component.

Other information may be included when applicable to the product or activity described.

RMW sections types are:

- OUTLINE - Issued at DD usually with a short product description only.
- SHORT FORM - For uncomplicated projects regardless of size. They include the three parts but carry shortened information.
- FULL SIZE - For complicated projects regardless of size.
- SHEET SPECS - Published in drawing sheets, for small and uncomplicated projects such as vanilla interiors and tilt-us cold shells.

At the discretion of the specifier, our sections may contain photos, drawings, or other graphics to facilitate communication to the contractor.

Each **SECTION** is identified by its title and a six digit number, for example:

Section 081216 - ALUMINUM FRAMES

The first two digits are the Division's (Division 08 - Openings), the next two digits are the group under that division for the family components (12 for Metal Frames) and the final two digits are for the specific component (16 for aluminum frames). Sections can be added as needed.

08 11 69.23	Aluminum Storm Doors and Frames
08 11 73	Sliding Metal Fire Doors
08 11 74	Sliding Metal Grilles
08 12 00	Metal Frames
08 12 13	Hollow Metal Frames
08 12 13.13	Standard Hollow Metal Frames
08 12 13.53	Custom Hollow Metal Frames
08 12 16	Aluminum Frames
08 12 19	Stainless-Steel Frames
08 12 23	Bronze Frames
08 13 00	Metal Doors
08 13 13	Hollow Metal Doors
08 13 13.13	Standard Hollow Metal Doors
08 13 13.53	Custom Hollow Metal Doors
08 13 16	Aluminum Doors

ISSUED FOR PERMIT
November 20, 2015

SECTION 072713 MODIFIED BITUMINOUS SHEET AIR BARRIERS

2. If "No substitutions" is indicated next to the product name, provide only products of listed manufacturers.

3. The burden of proof of equality of proposed products is on the Contractor.

B. Comparable products are not considered substitutions and require only the specified for the Basis of Design Product (no Substitution Request).

2.2 PERFORMANCE REQUIREMENTS

A. General: Air barrier shall be capable of performing as a continuous vapor-resisting liquid-water drainage plane flashed to discharge to the exterior incidental cost penetration. Air barrier assemblies shall be capable of accommodating substrate sealing substrate expansion and control joints, construction material changes at perimeter conditions without deterioration and air leakage exceeding specified limits.

B. Air Barrier Assembly Air Leakage: Not to exceed 0.01 cfm/sq. ft. of surface area.

2.3 SELF-ADHERING SHEET AIR BARRIER

A. Modified Bituminous Sheet: 40-mil-thick, self-adhering sheet consisting of a 4-mil-thick, polyethylene film with release liner on adhesive side.

1. Basis of Design Product: ExoAir™ 110 and 110LT (Low-Temperature Barrier Membranes by Tremco, Incorporated).

B. Physical and Performance Properties:

Property	Test Method	Typical Value
Membrane Air Permeance: Air Leakage @ 75Pa Differential Pressure	ASTM E 2179-01 CCMC 07273	Less than 0.001 cfm/sq. ft.
Water Vapor Permeance	ASTM E 96B	0.05 perm
Assembly Performance: Provide a continuous air barrier assembly	ASTM E2357	0.002 cfm/sq. ft.
Elongation (Membrane)	ASTM D 412 Die C	250%
Tensile Strength (Membrane)	ASTM D 412 Die C	500 psi
Tensile Strength (Film)	ASTM D 412 Die C	5,000 psi
Puncture Resistance - Membrane	ASTM E 154	30 lbs min
Flammability, 180°F - 1" mandrel @ -25°F, -32°C	ASTM D 1970	Pass
Moisture Absorption	ASTM D 570	.1%

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MENLO EQUITIES

SECTION 072100 ACOUSTICAL AND THERMAL INSULATION

SUMMARY

A. Section Includes: Building insulation

- Glass-fiber board insulation where indicated.
- Glass-fiber blanket insulation applications, and faced for

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Sections, apply to this Section.

B. Related Requirements:

- Division 07 Section "Thermoplastic Polyolefin (TPO) Roofing" for insulating roof construction.
- Division 07 Section "Fire-Resistive Joint Systems" for insulation installed in fire-resistive joint system.

1.2 LEED REQUIREMENTS

A. Adhesives shall have a VOC content of 70 g/L or less.

B. Recycled Content of Blanket Insulation: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

1.3 LEED SUBMITTALS

A. Product Data for recycled content, indicating postconsumer and pre-consumer recycled content and cost.

B. Product Data for adhesives, indicating VOC content.

ISSUE FOR PRICING - Building Envelope and Garage
June 24, 2016

SECTION 034500 PRECAST ARCHITECTURAL CONCRETE

1.8 CONCRETE MIXTURES

A. Compressive Strength (28 Days): 5000 psi.

1.9 FABRICATION

A. Exposed faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved design reference sample. Design Reference Samples were prepared by Walters & Wolf and included at the end of this section for illustration only. For pricing, consult with Architect.

1.10 SOURCE QUALITY CONTROL

A. Testing Agency: Contractor engaged to evaluate fabricator's quality-control and testing methods.

1.11 FIELD QUALITY CONTROL

A. Special Inspections: Contractor engaged.

B. Testing Agency: Contractor engaged.

END OF SECTION 034500



RMW Job No. 15060.00 INTUITIVE SURGICAL Engineering Campus Phase 1
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MENLO EQUITIES



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ENTONITE WATERPROOFING

Products are not considered substitutions and require only the submitted Basis of Design Product (no Substitution Request).

DPE/BENTONITE MEMBRANE

Bentonite Membrane: Minimum 150 mils - 200 mils thick membrane liner bonded to a layer of bentonite clay granules 135 - 185 mils thick.

Design Product:

Tremco Commercial Sealants & Waterproofing, an RPM company; Paraflex

Resistance: 169 lbf according to ASTM E 154.

Permeance: 0.03 perms according to ASTM E 96. Elevator pits and other underground installations where indicated.

Bentonite Membrane with Protective Facing: Minimum 170-mil-thick liner bonded to a layer of bentonite clay granules and with a spun polypropylene fabric facing.

Design Product: Tremco Commercial Sealants & Waterproofing, an RPM company; Paraflex 60-mil with heat welded seams.

Resistance: 169 lbf according to ASTM E 154.

Permeance: 0.03 perms according to ASTM E 96. For blindside conditions on retained earth, below slab with bentonite-sand aggregate.

ACCESSORIES

1. Sodium bentonite clay containing a minimum of 90 percent montmorillonite (smectite), with a minimum of 90 percent passing a No. 20 sieve.

Trowelable consistency, bentonite compound, specifically formulated for use.

2. Tubes: Manufacturer's standard 2-inch-diameter, water-soluble tube, of bentonite; hermetically sealed; designed specifically for placing exterior base of wall.

3. Exposed-aluminum or formed-stainless-steel bars with upper flange to be embedded in concrete.

4. Sheet: Polyethylene sheathing complying with ASTM D 4397; thickness to be determined by waterproofing manufacturer to suit application but at least 6 mils thick.

F. Cement Grout Patching Material: Manufacturer's recommended grout mix compatible with concrete being patched.

G. Masonry Fasteners: Case-hardened nails or hardened-steel, powder-actuated fasteners meeting manufacturer's written requirements, provide 1/2- or 1-inch-diameter washers under fasteners.

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SECTION 030120

MOISTURE REMEDIATION IN CONCRETE SLABS

WORK UNDER THIS SECTION IS REMEDIAL WORK TO BE DONE ONLY IF THE MOISTURE IN THE EXISTING CONCRETE SLABS EXCEEDS THE LIMITS REQUIRED FOR THE SPECIFIED FLOORING SYSTEMS INSTALLATION.

SUMMARY

A. Section Includes: Remediation of moisture conditions in concrete slabs scheduled to receive flooring finishes with manufacturer's prescribe moisture content limits below those encountered in the field.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, and other Division 01 Sections, apply to this Section.

B. Scope of Work: The extent of the work specified in this section will be determined by field conditions unknown until construction is underway. Scope includes providing a moisture remediation system for interior concrete slabs which, when tested according to ASTM F 1869, have emission rates HIGHER than the rates recommended by the manufacturers of the adhesives specified, BUT ARE LESS THAN 20 LBS PER 1,000 SQ. FT. IN 24 HOURS, and that are scheduled to receive flooring installed with adhesive or another method requiring moisture limitations.

1. If the moisture content in the existing concrete slabs moisture exceeds the limits above, notify the Architect immediately.

C. Coordination with additional requirements and information that apply to work under this Section are included in, but not limited to, the following sections:

1. Division 09 sections specifying glue-down installed flooring, epoxy terrazzo, installation of ceramic tile over separation membrane.

1.2 UNIT PRICES

A. Unit Price Definition:

1. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials.

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