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Specifications for Small Projects

You're the best person to write specifications for your small project! We present several options for quickly preparing specs for small projects, ranging from specs on the drawings to short-form specs and the use of master specifications. Aimed at design professionals who write specs only when necessary, this session includes tips on preparing general conditions and general requirements, creating technical specs, and communicating with your engineering consultants. Our workshop leader is the author of Kalin Associates' Master Short Form Specifications, now in its eighth edition. Participants receive a free electronic copy of Kalin Associates' Sheetspec and spec checklists.

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For an electronic copy of these materials, SheetSpec and a specification checklist in Word format, **email mkalin@kalinassociates.com**

Mr. Kalin is President of Kalin Associates, an independent specification consulting firm in the Boston area. He is a registered architect, CSI certified construction specifier, a LEED accredited professional, and a fellow in both the AIA and CSI. Mr. Kalin is a President of Specification Consultants in Independent Practice (SCIP) and a Past-President of CSI Boston. He has been national Chair of the AIA Masterspec Review Committee, and is currently Chair of CSI's Sustainable Facilities Practice Group.

Specification Writing Overview

Purpose of Specifications

Communicate what the owner needs and wants to pay for.

Enable the contractor to bid the job accurately.

Specify products which can be bought, and installation tolerances which can be met.

Common Issues

Or equal

If conflict, do drawings or specs govern?

Using reference standards

Drawing/spec coordination

Modification procedures

Spec control log

Tools Needed

Specification Writing Guide

Front End Documents in Common Format

Office Master Specifications

Fourteen reference guides for streamlining product selection, detailing, specifying

Architectural Sheet Metal Manual

Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), www.smacna.org

AWI Quality Standards Illustrated

Architectural Woodwork Institute, www.awinet.org

Best Practice Guides - Building Technology

Canada Mortgage and Housing Corporation, www.chmc-schl.gc.ca

Blue Book for Building and Construction

Blue Book, www.thebluebook.com

Building Science for Building Enclosures - Straube and Burnette

Building Science Press, Westford, MA, www.buildingsciencepress.com

CISCA Ceiling Systems Handbook

Ceilings & Interior Systems Construction Association, www.cisca.org

Copper & Common Sense

Revere Copper Products, www.reverecopper.com

Graphic Standards Guide to Architectural Finishes

ARCOM/AIA, Wiley, www.wiley.com

Guide to Wood Species

Architectural Woodwork Institute, www.awinet.org

Gypsum Construction Handbook

United States Gypsum, www.usg.com

Handbook for Ceramic Tile Installation

The Tile Council of North America, www.tileusa.com

Standard Steel Doors and Frames Fact File

Steel Door Institute, www.steeldoor.org

Terrazzo Information Guide

The National Terrazzo & Mosaic Association, www.ntma.com

Waterproofing Systems Contractor's Handbook

Grace Construction Products, www.graceconstruction.com

Resources

www.arcat.com	ARCAT, CSI format specifications, wizards
www.pacerepresentatives.com	Manufacturer's collaborative website
www.kalinassociates.com	Kalin Associates, Sheetspec and Short-Form Specs
www.buildingscience.com	Building Science Corporation
www.csinet.org	The Construction Specifications Institute
www.aia.org	The American Institute of Architects
www.architects.org	The Boston Society of Architects
www.sweets.com	McGraw-Hill, Sweet's compendium website
www.arcomnet.com	ARCOM, AIA Masterspec
www.bsdssoftlink.com	Building Systems Design, Spec Link
www.spectext.com	CSRF, Spectext
www.wbdg.org	(Federal) Whole Building Design Guidelines
www.buildinggreen.com	Environmental Building News
www.usgbc.org	The US Green Building Council
www.google.com	More than anyone needs to know

Methods of Specifying

Descriptive:	Defines properties of materials without tradenames or performance criteria Concrete mix of 4 parts coarse aggregate, 2 parts fine aggregate, 1 part cement with 0.5 water cement ratio.
Performance:	Defines required results. Contractor chooses methods, materials 3000 psi concrete
Reference Std:	Product specified by reference to standard ANSI/ASME A17.1 Safety code for elevators ASTM C1048 for tempered glass ACI 319, Building Code Requirements for Reinforced Concrete
Proprietary:	Specifies actual brand names, model numbers Closed - no or equal Open - or equal Kawneer 1600 Curtainwall Mortise Lock by Schlage, Sargent, Yale or equal

Language

Clear	Use correct grammar and simple sentence construction. Carefully select words that convey exact meanings. Ambiguities interpreted against preparer
Correct	Present information accurately and precisely.
Complete	Include all important information
Concise	Eliminate unnecessary words but not at the expense of clarity, correctness, or completeness.

Terms

Amount	Refers to money
Quantity	Refers to numbers, linear measure, area, volume
Any	Imprecise; permits discretion by reader --Fill any cracks--
And	Both
Or	Either but not necessarily both
And/Or	Meaningless
Both	Inclusive
Either	Implies a choice -- Glass sidelights on either side of the door-- -- Glass sidelights on both sides of the door--
Flammable	Mean the same thing; flammable preferred
Inflammable	
Furnish	Supply and deliver to the site ready for installation
Install	Place in position for service or use
Provide	Furnish and install
Observe	Watch or view
Supervise	Have control and direction
Shall	Imperative, Contractor shall provide ...
Will	Imperative, Owner will provide ...
Spelling	Gage not gauge - Calk not caulk - Molding not moulding Catalog not catalogue - Through not thru
Avoid Symbols	#, %, &, X, +, @, degree symbol
Quantities	For quantities less than one, use zero before decimal, i.e. 0.235
Capitalization	Capitalize only words capitalized in agreement forms
Avoid	As allowed, as appropriate, as approved, as directed, as indicated, as necessary, as required unless object is used, i.e. by the Engineer.
Avoid	Etc. - As per - In a workmanlike manner To the satisfaction of the Architect - Shall function as intended

Use this sample text from Master Sheetspec to create a project specification for a small project. Delete sections and paragraphs not required for your project. Add new items as you require.

CONDITIONS OF THE CONTRACT

AIA A201-1997, General Conditions of the Contract for Construction, included by reference.

SPECIFICATIONS

Technical specifications and administrative requirements for the Project are divided into 16 Divisions as follows. Division 1 General Requirements apply to all work for the Project.

Division 01	General Requirements	Division 12	Furnishings
Division 02	Existing Conditions	Division 13	Special Construction
Division 03	Concrete	Division 14	Conveying Equipment
Division 04	Masonry	Division 21	Fire Suppression
Division 05	Metals	Division 22	Plumbing
Division 06	Wood, Plastics and Composites	Division 23	HVAC
Division 07	Thermal and Moisture Protection	Division 26	Electrical
Division 08	Openings	Division 27	Communications
Division 09	Finishes	Division 31	Earthwork
Division 10	Specialties	Division 32	Exterior Improvements
Division 11	Equipment	Division 33	Utilities

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 011000 SUMMARY

- Summary:
1. The Project consists of <Insert a very brief description.>
- Project Requirements:
1. Requirements for Sequence of Work, Phasing, and Occupancy:
 2. Prior or Concurrent Work by Owner or Others:
 3. Existing Site Conditions and Restrictions:
 4. Contractor's Use of Premises and Adjacent Facilities:
 5. Prepurchased and Preordered Items:
 6. Owner Furnished and Owner Installed Items:
 7. Owner Furnished and Contractor Installed Items:
 8. Special Mock Ups:
 9. Related Future Work:
 10. Reference Drawings and Reports:
 11. Owner's Building Standards:
- Permits:
1. Apply and pay for building permits, other permits, and utility company backcharges required to perform the work. Submit copies to Architect.

- Intent: 1. Drawings and specifications are intended to provide the basis for the proper completion of the Project suitable for the intended use of the Owner.
2. Items not expressly set forth but which are reasonably implied or necessary for the proper performance of this work shall be included.
- Coordination: 1. Coordinate the work of all trades.
2. Prepare coordination drawings for areas above ceilings where close tolerances are required between building elements and mechanical and electrical work.
3. Verify location of utilities and existing conditions. Notify Architect of conditions differing from those indicated on the Drawings.
4. Verify dimensions on Drawings with dimensions at the Project. Do not scale Drawings.
- Cutting and Patching: 1. Provide cutting and patching work to properly complete the Project.
2. Do not remove or alter structural components without written approval.
3. Cut with tools appropriate for materials to be cut.
4. Patch with materials and methods to produce patch which is not visible from a distance of five feet.
5. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease fire performance, decrease acoustical performance, decrease energy performance, decrease operational life, or decrease safety factors.
- Field Engineering: 1. Verify and locate utilities, existing facilities, and equipment.
2. Survey and layout improvements, utilities, structures, and components.
- Project Meetings: 1. Arrange for a preconstruction conference prior to start of construction. Meeting shall be attended by Owner, Architect, Contractor, and major subcontractors.
2. Arrange for progress meetings once a month during construction, prior to application for payment. Record minutes and distribute promptly.
- Submittals: 1. Submit a project schedule and update at least monthly. Submit for approval all submittals listed in individual sections with the following number of copies: Shop drawings, reviewed and annotated by the Contractor, 3 copies; product data, 3 copies; samples, 3 sets plus range samples where applicable; test reports, 3 copies; warranties, 3 copies; other submittals, 3 copies.
2. Include details of construction and adjacent construction in shop drawings. Clearly indicate any deviations from requirements of the contract documents. Fabricate materials from approved shop drawings only.
- Quality Assurance: 1. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, including accessibility guidelines where applicable. Submit copies of inspection reports, notices and similar documents to Architect.

2. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years.
3. Use experienced installers. Furnish evidence of experience if requested.
4. Deliver, handle, and store materials in strict accordance with manufacturer's instructions.
5. Use of any supplier or subcontractor is subject to Owner's approval.
6. Engage and pay for testing agencies as required. Refer to individual sections for additional requirements.

- Temporary Facilities:
1. Provide temporary facilities and connections as required for the proper completion of the project.
 2. Provide and maintain temporary utility services.
 3. Meter and pay for utility service. Do not waste.
 4. Owner will pay for utility service consumed. Do not waste.
 5. Provide temporary protection for adjacent areas to prevent contamination by construction dust and debris.
 6. Provide temporary barricades as necessary to ensure protection of the public.
 7. Provide suitable waste disposal units and empty regularly. Do not permit accumulation of trash and waste materials.
 8. Provide temporary sanitary facilities.
 9. Use of designated existing sanitary facilities in building is acceptable.
 10. Maintain egress within and around construction areas.
 11. Maintain fire alarm systems in operation during construction.
 12. Provide fire extinguishers in work areas during construction.
 13. Provide temporary protection for adjacent construction. Promptly repair any damage at no additional cost to the Owner.

- Products & Substitutions:
1. Provide products and materials specified. Request Architect's selection of colors and accessories in sufficient time to avoid delaying progress of work.
 2. Submit requests for substitutions shall be in writing, including reasons. Submit sufficient information for Architect to evaluate proposed substitution.
 3. Remove and replace work which does not conform to the contract documents at no additional expense to the Owner.

- Installation:
1. Inspect substrates and report unsatisfactory conditions in writing.
 2. Do not proceed until unsatisfactory conditions have been corrected.
 3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
 4. Install materials in exact accordance with manufacturer's instructions and approved submittals.
 5. Install materials in proper relation with adjacent construction and with proper appearance.
 6. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.

7. Refer to additional installation requirements and tolerances specified under individual specification sections.

Closeout:

1. Prepare punchlist for remaining work for review by the Architect.
2. Complete punchlist items promptly at no additional expense to the Owner.
3. Submit accurate record documents of building and site.
4. Submit operating manuals, maintenance manuals, and warranty information.
5. Obtain and submit copy of occupancy permits.
6. Train Owner in use of building systems.
7. Remove temporary facilities and provide final cleaning and touch up.
8. Restore portions of building, site improvements, landscaping and other items damaged by construction operations to the satisfaction of the Architect at no additional expense to the Owner.

SECTION 012100 ALLOWANCES

Summary:

1. Include scheduled allowances in the project cost; allowance is for cost of materials only, delivered and unloaded at the site. Installation and all other costs are to be included in base price and separate from allowance amounts.
2. Submit invoices to indicate actual quantities of materials delivered and costs. Indicate amounts of applicable trade discounts.

Allowances:

1. Kitchen Cabinets, lump sum:
2. Finish Hardware, lump sum:
3. Carpet (\$/sq.yd), unit price:
4. Wallcoverings (\$/sq.yd), unit price:
5. Window Treatment, lump sum:
6. Masonry (\$/1000), unit price:
7. Landscaping, lump sum:
8. HVAC Modifications, lump sum:
9. Electrical/Data/Telephone Outlets (each), unit price:
10. Lighting Fixtures, lump sum:
11. Plumbing Fixtures, lump sum:

SECTION 012300 ALTERNATES

Summary:

1. Submit price for each alternate. Include cost of modifications to other work to accommodate alternate. Owner will determine which alternates are selected for inclusion in the Project.

Alternates:

1. Add alternates:
2. Deduct alternates:
3. Cost comparison alternates:

SECTION 081100 METAL DOORS AND FRAMES (SAMPLE FORMAT)

- Summary:
1. Provide interior and exterior steel doors and frames.
 2. Remodel existing steel doors and frames.
- Submittals:
1. Submit product data, door schedule using designations on drawings.
- Products:
1. Products: Insert manufacturer's name and product.
 2. Standards: ANSI/SDI 100, Recommended Specifications for Standard Steel Doors and Frames.
 3. Fire Rated Assemblies: NFPA 80, and acceptable testing agency listing.
 4. Interior Doors: ANSI/SDI 100, Grade II, heavy duty, minimum 18 gage cold rolled steel, 1-3/4 inches thick, factory primed.
 5. Exterior Doors: ANSI/SDI 100, Grade III, extra heavy duty, minimum 16 gage galvanized sheet steel, 1 3/4 inches thick, factory primed.
 6. Interior Frames: Knockdown type, 16 gage.
 7. Exterior Frames: Welded type, 14 gage galvanized steel.
 8. Accessories: Door silencers and plaster guards.
- Installation:
1. Comply with requirements of Section 011000 - Summary.
 2. Comply with SDI 100, and NFPA 80 for fire-rated assemblies