



OVERCOMING CHALLENGES IN SPECIFICATION WRITING FOR ARCHITECTURE

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TABLE OF CONTENTS

Content Outline	03
Introduction <ul style="list-style-type: none">- The importance of specifications in architectural projects- Overview of current challenges in specification writing	
Chapter 1	04
Fundamentals of Specification Writing <ul style="list-style-type: none">- Types of specifications (performance, prescriptive, proprietary)- Structure and organization of specifications- Key elements of a well-written specification	
Chapter 2	06
Regulatory Compliance and Standards <ul style="list-style-type: none">- Overview of building codes and regulations- Sustainability and energy efficiency standards- Accessibility requirements	
Chapter 3	08
Common Challenges in Specification Writing <ul style="list-style-type: none">- Time management- Keeping up with changing regulations- Balancing detail and flexibility	
Chapter 4	10
Best Practices for Efficient Specification Writing <ul style="list-style-type: none">- Developing and maintaining a master specification- Utilizing specification software tools- Collaboration and coordination with other disciplines	
Chapter 5	12
The Role of Outsourcing in Specification Writing <ul style="list-style-type: none">- Benefits of outsourcing specifications- How to choose a specification writing service- Integrating outsourced specifications into your workflow	
Chapter 6	14
Future Trends in Specification Writing <ul style="list-style-type: none">- Impact of BIM on specifications- Artificial intelligence and machine learning in specification development- Sustainability and circular economy considerations	
Conclusion	15
<ul style="list-style-type: none">- Recap of key points- Encouragement for continuous improvement in specification writing	

INTRODUCTION

THE CORNERSTONE OF ARCHITECTURAL PROJECTS - SPECIFICATIONS

In the intricate world of architecture and construction, specifications serve as the unsung heroes, bridging the gap between design intent and project realization. These detailed documents are the backbone of any successful architectural project, providing clear instructions, setting quality standards, and ensuring that the vision of architects is faithfully translated into reality.

The importance of specifications in architectural projects cannot be overstated. They act as a comprehensive guide for contractors, subcontractors, and suppliers, detailing the materials, products, and workmanship required to bring a design to life. Well-crafted specifications minimize misunderstandings, reduce errors, and ultimately contribute to the smooth execution of projects.

However, the process of creating these vital documents is not without its challenges. In today's rapidly evolving construction landscape, specification writers face a myriad of obstacles:

- 01** Keeping pace with technological advancements
- 02** Navigating an ever-changing regulatory environment
- 03** Balancing specificity with flexibility
- 04** Coordinating with multiple stakeholders
- 05** Managing time and resources effectively

This ebook aims to address these challenges head-on, providing architects and specification writers with the knowledge and tools needed to excel in this critical aspect of architectural practice. From fundamental concepts to future trends, we'll explore the multifaceted world of specification writing, offering insights, best practices, and practical solutions.

As we delve into this topic, it's worth noting that many architecture firms are turning to specialized services to manage their specification needs. AORBIS, a leader in specification writing services, offers expertise and support to architects seeking to optimize their specification process. Throughout this ebook, we'll explore how such services can be integrated into architectural workflows to enhance efficiency and quality.

Let's embark on this journey to master the art and science of specification writing, ensuring that your architectural visions are communicated clearly, precisely, and effectively.



CHAPTER 1

FUNDAMENTALS OF SPECIFICATION WRITING

Types of Specifications

Architectural specifications generally fall into three main categories:

01 Performance Specifications

These focus on the desired outcome or performance criteria rather than prescribing specific materials or methods. For example, instead of specifying a particular brand of insulation, a performance spec might state: "Provide insulation with an R-value of 38 in all attic spaces."

02 Prescriptive Specifications

These provide detailed descriptions of materials, products, and installation methods. For instance: "Use 5/8-inch Type X gypsum board, fastened with 1-1/4 inch drywall screws at 8 inches on center along panel edges and 12 inches on center in the field."

03 Proprietary Specifications

These call for specific products by brand name. For example: "Provide Lutron Maestro MS-OPS2 occupancy sensor switches in all offices."

Each type has its advantages and is chosen based on project requirements, client preferences, and regulatory considerations.

Structure and Organization of Specifications

Most specifications in North America follow the Construction Specifications Institute (CSI) MasterFormat, which organizes construction requirements into 50 divisions. This standardized structure facilitates consistency and ease of use across the industry (CSI, 2023).

Key components of a typical specification section include:

01 General

Includes administrative and procedural requirements

02 Products

Details materials, products, equipment, and their quality standards

03 Execution

Describes installation methods, tolerances, and field quality control

Key Elements of a Well-Written Specification

A well-crafted specification should be:

01 Clear and Concise

Use simple, direct language to avoid ambiguity.

03 Complete

Cover all aspects of the work without gaps.

05 Coordinated

Align with drawings and other contract documents.

02 Consistent

Maintain uniform terminology and format throughout.

04 Correct

Ensure accuracy in technical details and standards.

Example

Poor: "Install good quality flooring in the lobby."

Better: "Install 24" x 24" porcelain tiles with a minimum COF of 0.42 in the lobby area as shown on drawing A-101. Use epoxy grout with 1/8" joint width. Comply with TCNA Handbook method F113-19."

Statistics highlight the importance of well-written specifications

According to a study by the American Institute of Architects, unclear or incomplete specifications contribute to approximately 25% of construction disputes (AIA, 2019).

The Construction Industry Institute reports that effective front-end planning, including thorough specifications, can improve project performance by up to 20% (CII, 2021).

In the next chapter, we'll explore the critical role of regulatory compliance and standards in specification writing, ensuring that your projects not only meet design intent but also adhere to all necessary legal and industry requirements.

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- AIA. (2019). Avoiding Contract Disputes Through Clear Specifications.
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CHAPTER 2

REGULATORY COMPLIANCE AND STANDARDS

Overview of Building Codes and Regulations

Navigating the complex landscape of building codes and regulations is crucial for specification writers. These codes ensure the safety, health, and welfare of building occupants and the public.

Key building codes in the United States include:

01 International Building Code (IBC)

02 National Electrical Code (NEC)

03 International Plumbing Code (IPC)

04 International Mechanical Code (IMC)

It's important to note that codes can vary by state and local jurisdiction. For instance, California has its own Building Standards Code (Title 24), which includes additional energy efficiency requirements.

Example

When specifying fire-rated assemblies, you might write:

"Provide 1-hour fire-rated wall assembly in accordance with UL Design No. U419, complying with IBC Section 708 requirements for fire partitions."

Sustainability and Energy Efficiency Standards

With increasing focus on environmental impact, sustainability standards have become integral to modern specifications.

Key standards include:

01 LEED (Leadership in Energy and Environmental Design)

02 WELL Building Standard

03 Living Building Challenge

04 BREEAM (Building Research Establishment Environmental Assessment Method)

Energy efficiency standards are often mandated by code, such as:

01 ASHRAE 90.1 for commercial buildings

02 International Energy Conservation Code (IECC)

Example specification language

"All windows shall have a maximum U-factor of 0.30 and SHGC of 0.25, meeting ENERGY STAR requirements for the project's climate zone."

Statistics

According to the U.S. Green Building Council, LEED-certified buildings consume 25% less energy and 11% less water compared to non-certified buildings[1].

Accessibility Requirements

Ensuring accessibility for all users is not just good practice—it's the law. In the U.S., key accessibility standards include:

01 Americans with Disabilities Act (ADA) Standards for Accessible Design

02 ICC A117.1 Accessible and Usable Buildings and Facilities

Example specification

"Provide lever-type door hardware complying with ADA Standards Section 404.2.7, operable with no more than 5 pounds of force."

In the next chapter, we'll explore best practices for writing clear, concise, and effective specifications that meet all necessary regulatory requirements while still allowing for flexibility in design and construction.

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CHAPTER 3

COMMON CHALLENGES IN SPECIFICATION WRITING

Time Management

Specification writing can be time-consuming, often requiring extensive research and coordination. A survey by the Specifications Consultants in Independent Practice (SCIP) found that 68% of specification writers consider time management their biggest challenge (SCIP, 2022).

Strategies for effective time management include:

- 01** Developing and maintaining a robust master specification
- 02** Utilizing specification software for efficient editing
- 03** Prioritizing tasks based on project criticality

Keeping Up with Changing Regulations

The regulatory landscape is continually evolving. For example, energy codes typically update every three years, while accessibility standards may change even more frequently.

To stay current:

- 01** Subscribe to industry newsletters and code update notifications
- 02** Attend professional development seminars and webinars
- 03** Participate in professional organizations like CSI or SCIP

Balancing Detail and Flexibility

Overspecification can limit contractor options and potentially increase costs, while underspecification can lead to misunderstandings and quality issues.

Example of balanced specification

Provide exterior cladding with the following characteristics:

- **Material:** Fiber cement
- **Thickness:** Minimum 5/16 inch
- **Finish:** Factory-applied, low-VOC paint
- **Color:** To be selected by Architect from manufacturer's full range
- **Warranty:** Minimum 30-year limited product warranty

Acceptable manufacturers

- James Hardie
- Nichiha
- Allura

Or approved equal meeting all specified requirements.

This approach provides clear requirements while allowing for some flexibility in product selection.

Statistics

A study by the Construction Industry Institute found that optimally detailed specifications can reduce construction costs by up to 3.6% compared to overly prescriptive or vague specifications (CII, 2021).

In the next chapters, we'll explore best practices for efficient specification writing, the role of outsourcing, and future trends in the field. These insights will help you overcome these common challenges and elevate your specification writing process.

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CHAPTER 4

BEST PRACTICES FOR EFFICIENT SPECIFICATION WRITING

Developing and Maintaining a Master Specification

A master specification is a comprehensive document that serves as a template for project-specific specs. It's a valuable tool for ensuring consistency and efficiency.

Key steps in developing a master specification:

01 Compile frequently used sections

02 Standardize language and format

03 Include options for common variations

03 Regularly update to reflect current standards and products

Maintenance tips

- Schedule annual reviews
- Assign responsibility for updates to specific team members
- Use version control to track changes

Utilizing Specification Software Tools

Modern specification software can significantly streamline the writing process. Popular tools include:

01 e-SPECS

02 BSD SpecLink

03 MasterSpec

These tools offer features like:

01 Automated updates

02 Cloud-based collaboration

03 Integration with BIM software

According to a survey by the Construction Specifications Institute, firms using specification software report a 30% reduction in spec writing time (CSI, 2022).

Collaboration and Coordination with Other Disciplines

Effective spec writing requires close coordination with various stakeholders. Best practices include:

01 Regular interdisciplinary meetings

02 Shared digital platforms for real-time collaboration

03 Clear communication of design intent to specialty consultants

Example

When specifying a complex HVAC system, collaborate closely with mechanical engineers to ensure that the architectural specifications align with the mechanical requirements.

By implementing these best practices, you can streamline your specification writing process, improve consistency, and enhance the overall quality of your architectural projects. In the next chapter, we'll explore the role of outsourcing and how it can further optimize your specification efforts.

References

- CSI. (2022). Specification Software Survey.



CHAPTER 5

THE ROLE OF OUTSOURCING IN SPECIFICATION WRITING

Benefits of Outsourcing Specifications

Outsourcing specification writing can offer several advantages:

- 01 Access to specialized expertise
- 02 Time and resource savings
- 03 Improved quality and consistency
- 04 Flexibility to handle workload fluctuations

According to a study by the American Institute of Architects, 37% of firms outsource some or all of their specification writing (AIA, 2021).

How to Choose a Specification Writing Service

When selecting a service provider like AORBIS INC Inc, consider:

- 01 Experience and expertise in your project types
- 02 Quality control processes
- 03 Turnaround times and capacity
- 04 Compatibility with your workflow
- 05 References and past project examples

Integrating Outsourced Specifications into Your Workflow

To maximize the benefits of outsourcing:

- 01 Provide clear project information and expectations
- 02 Establish a consistent communication channel
- 03 Set up a review process for outsourced specs
- 04 Integrate the outsourced specs seamlessly into your documentation set

Example workflow

- Initial project briefing with AORBIS Inc
- AORBIS develops draft specifications
- Internal review and feedback
- AORBIS incorporates revisions
- Final review and integration into project documents

By leveraging the expertise of specification writing services, you can streamline your process, improve quality, and focus your in-house resources on other critical aspects of your architectural projects. In the final chapter, we'll explore future trends and innovations in specification writing that will shape the industry in the years to come.

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CHAPTER 6

FUTURE TRENDS IN SPECIFICATION WRITING

Impact of BIM on Specifications

Building Information Modeling (BIM) is increasingly influencing specification writing. Trends include:

- 01** BIM-integrated specifications
- 02** Automated spec generation from model data
- 03** Enhanced visualization of specified products within the model

A McGraw Hill Construction report found that 74% of contractors believe BIM reduces conflicts and changes during construction, highlighting the importance of well-coordinated models and specs (McGraw Hill, 2014).

Artificial Intelligence and Machine Learning in Specification Development

AI and ML are poised to revolutionize spec writing:

- 01** Automated content suggestions based on project type and location
- 02** Intelligent conflict detection between specs and drawings
- 03** Natural language processing for easier spec interpretation

While still emerging, these technologies could reduce specification errors by up to 80%, according to early adopters.

Sustainability and Circular Economy Considerations

Future specifications will likely place greater emphasis on:

- 01** Life cycle assessments of specified products
- 02** Embodied carbon calculations
- 03** Design for disassembly and material reuse
- 04** Compliance with evolving green building standards

The World Green Building Council projects that by 2050, all new buildings will need to be net-zero carbon, significantly impacting how we specify materials and systems (WGBC, 2019).



CONCLUSION

As we've explored throughout this ebook, specification writing is a critical yet complex aspect of architectural practice. From understanding fundamental concepts to leveraging cutting-edge technologies, the field is constantly evolving.

Key takeaways

- 01** Well-written specifications are crucial for project success
- 02** Staying current with codes and standards is essential
- 03** Efficient processes and tools can significantly improve productivity
- 04** Outsourcing can provide valuable expertise and flexibility
- 05** Emerging technologies will continue to shape the future of specification writing

As architects, embracing these challenges and opportunities in specification writing will not only enhance the quality of your projects but also contribute to the advancement of the built environment.

Remember, services like those offered by AORBIS Inc can provide valuable support in navigating the complexities of specification writing. By leveraging expert resources and staying informed about industry trends, you can ensure that your specifications are always of the highest quality, supporting the successful realization of your architectural visions.

Continuous improvement in specification writing is not just a professional necessity—it's an opportunity to elevate the entire field of architecture. As you apply the insights from this ebook, you're not just improving your own practice, but contributing to the creation of better, safer, and more sustainable buildings for generations to come.

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