

Architectural Woodwork Standards

SECTION - 7 STAIRWORK & RAILS

SECTION 7 ♦ STAIRWORK & RAILS

(Including Wood Stairs, Integral Trim, Handrails, and Guardrails)

GENERAL

1 INFORMATION

1.1 GRADES

- 1.1.1 These standards are characterized in three Grades of quality that may be mixed within a single project. Limitless design possibilities and a wide variety of lumber and veneer species, along with overlays, high-pressure decorative laminates, factory finishes, and profiles are available in all three Grades.
- 1.1.2 **ECONOMY GRADE** defines the minimum quality requirements for a project's workmanship, materials, or installation and is typically reserved for woodwork that is not in public view, such as in mechanical spaces and utility areas.
- 1.1.3 **CUSTOM GRADE** is typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.
- 1.1.4 **PREMIUM GRADE** is typically specified for use in those areas of a project where the highest level of quality, materials, workmanship, and installation is required.
- 1.1.5 **MODIFICATIONS** by the contract documents shall govern if in conflict with these standards.

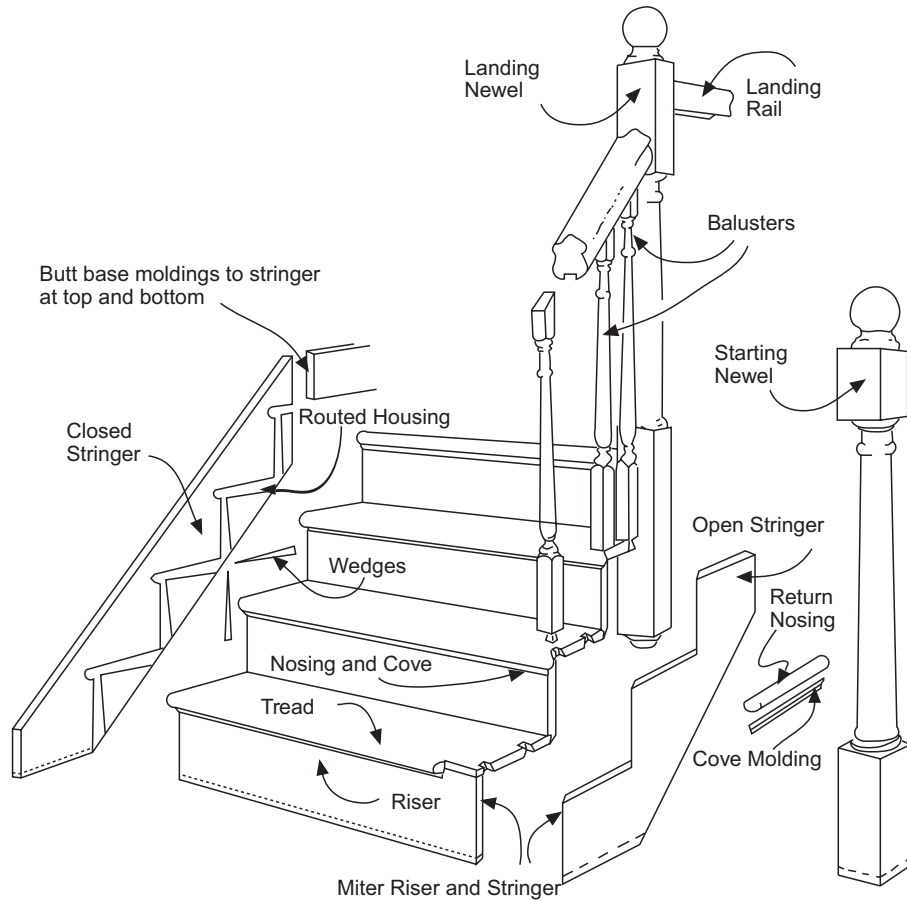
1.2 BASIC CONSIDERATIONS

- 1.2.1 **ACCEPTABLE REQUIREMENTS** of lumber and/or sheet products used within this woodwork product section are established by Sections 3 and 4, unless otherwise modified herein.
- 1.2.2 **CONTRACT DRAWINGS** and/or **SPECIFICATIONS**, furnished by the design professional, shall clearly indicate or delineate all material, fabrication, installation, and applicable building code/regulation requirements.
- 1.2.3 **CROSS GRAIN** in band-sawn or laminated members might cause objectionable color variation when finished.
- 1.2.4 **EDGES** in veneer-laminated members or where multiple layers are exposed by shaping might cause objectionable color variation when finished.
- 1.2.5 **CURVED MEMBERS**, depending on the Grade, can be band-sawn, block-laminated, or veneer-laminated at the option of the manufacturer.
 - 1.2.5.1 **EDGES** in veneer-laminated members, or where multiple layers are exposed by shaping, might cause objectionable variation in color when finished.
- 1.2.6 **EXPOSED SURFACES INCLUDE:**
 - 1.2.6.1 All visible surfaces of stringers, skirt boards, treads, risers, and balustrades.
- 1.2.7 **SEMI-EXPOSED SURFACES** - N/A
- 1.2.8 **CONCEALED SURFACES INCLUDE:**
 - 1.2.8.1 All non-visible surfaces attached to and/or covered by another.
 - 1.2.8.2 All non-visible blocking or spacers used for attachment.
- 1.2.9 **DESIGN CONSIDERATIONS** - Stairs, rails, and handrails are subject to building code requirements. Code restrictions apply to rise, run, handrail, and guardrail heights, structural strength and other issues. It is the responsibility of the design professional to comply with applicable building code(s) and regulations.
 - 1.2.9.1 Consultation with an experienced stair builder is strongly recommended.

GENERAL

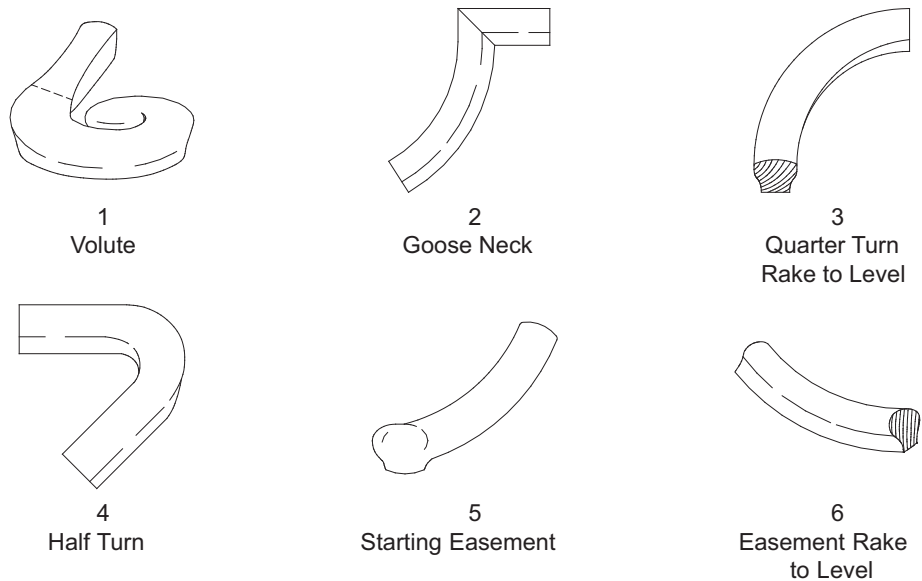
1.2 BASIC CONSIDERATIONS (continued)

1.2.10 STAIR and HANDRAIL NOMENCLATURE:



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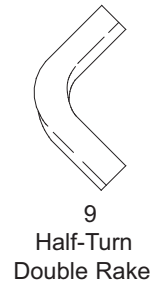
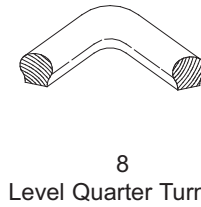
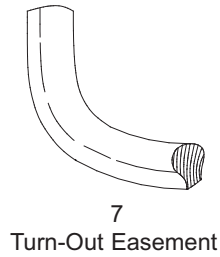
1.2.11 HANDRAIL COMPONENT NOMENCLATURE:



GENERAL

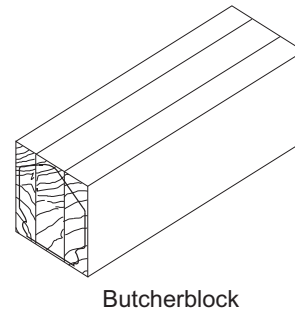
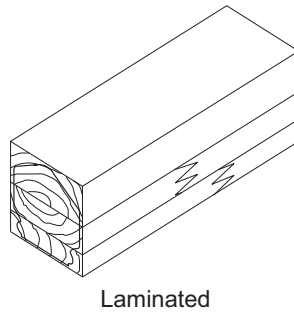
1.2 **BASIC CONSIDERATIONS** (continued)

1.2.11 **HANDRAIL COMPONENT NOMENCLATURE** (continued)

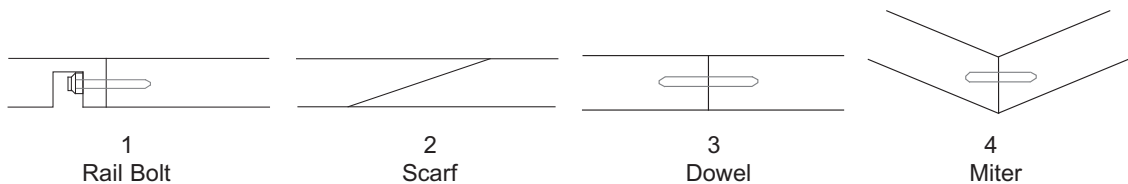


1.2.12 **HANDRAIL FABRICATION:** Large dimension rail fabrication techniques are typically the option of the manufacturer. Lamination on a radius depends on many factors:

1.2.12.1 Typical lamination orientations:



1.2.13 **HANDRAIL JOINERY:**



1.3 **RECOMMENDATIONS**

1.3.1 **INCLUDE IN DIVISION 09 OF THE SPECIFICATIONS:**

1.3.1.1 For **JOBSITE FINISHING - BEFORE FINISHING**, all exposed portions of woodwork shall have handling marks or effects of exposure to moisture, removed with a thorough, final sanding over all surfaces of the exposed portions using an appropriate grit sandpaper, and shall be cleaned before applying sealer or finish.

1.3.1.2 At **CONCEALED SURFACES** - Architectural woodwork that might be exposed to moisture, such as those adjacent to exterior concrete walls, shall be back-primed.

1.3.2 **THOROUGHLY REVIEW** Sections 3 and 4, especially Basic Considerations, Recommendations, Acknowledgements, and Industry Practices within **GENERAL** for an overview of the characteristics and the minimum acceptable requirements of lumber and/or sheet products that might be used herein.

1.3.3 **CONTRACT DOCUMENTS** (plans and/or specifications) shall require that all structural members, grounds, blocking, backing, furring, brackets, or other anchorage which becomes an integral part of the building's walls, floors, or ceilings, required for the installation of architectural woodwork is not to be furnished or installed by the architectural woodwork manufacturer or installer.

1.3.4 **SPECIFY** requirements for:

1.3.4.1 Fire ratings.

GENERAL

1.3 RECOMMENDATIONS (continued)

1.3.4 SPECIFY requirements for (continued)

1.3.4.2 Special code or regulation compliance.

1.4 ACKNOWLEDGEMENTS - None

1.5 INDUSTRY PRACTICES

1.5.1 **STRUCTURAL MEMBERS**, grounds, blocking, backing, furring, brackets, or other anchorage that becomes an integral part of the building's walls, floors, or ceilings, that are required for the installation of architectural woodwork are not furnished or installed by the architectural woodwork manufacturer or installer.

1.5.2 **WALL, CEILING**, and/or opening variations in excess of 1/4" (6.4 mm) or **FLOORS** in excess of 1/2" (12.7 mm) in 144" (3658 mm) of being plumb, level, flat, straight, square, or of the correct size are not acceptable for the installation of architectural woodwork, nor is it the responsibility of the installer to scribe or fit to tolerances in excess of such.

1.5.3 **BACK-PRIMING** of architectural woodwork is not the responsibility of the manufacturer and/or installer, unless the material is being furnished prefinished.

1.5.4 **RADIUS MOLDINGS** are laminated and formed, preshaped, or machined to the radius and fabricated in the longest practical lengths to minimize installer joints.

PRODUCT

2 SCOPE

2.1 All wood interior stairs and allied wood stair material.

2.2 TYPICAL INCLUSIONS

2.2.1 Wood stringers of skirt boards

2.2.2 Treads, risers, nosing, and scotia

2.2.3 Starting steps

2.2.4 All wedges and glue blocks

2.2.5 Newels, balusters, handrails, guard rails, and crooks

2.2.6 Well hole trim

2.2.7 Show rail, fillet, and spandrels

2.2.8 All other wood parts of a stair

2.2.9 Installation; if **UNINSTALLED**, stair materials shall be furnished machined KD (knocked down)

2.3 TYPICAL EXCLUSIONS

2.3.1 Any rough horses, structural wood framing, or timbers

2.3.2 Any metal handrail brackets or safety nosing

2.3.3 Any flooring

2.3.4 Priming and/or finishing of any kind

3 DEFAULT STIPULATION

3.1 IF NOT OTHERWISE SPECIFIED OR INDICATED IN THE CONTRACT DOCUMENTS, ALL WORK Shall be unfinished, Custom Grade, solid-stock softwood intended for opaque finish.

4 RULES - The following RULES shall govern unless a project's contract documents require otherwise.

These rules are intended to provide a well-defined degree of control over a project's quality of materials and workmanship.

Where E, C, or P is not indicated, the rule applies to all Grades equally.

PRODUCT

MATERIAL, MACHINING, AND ASSEMBLY RULES (continued)

4 RULES - The following RULES shall govern (continued)

ERRATA, published on the Associations' websites at www.awinet.org, www.awmac.com, or www.woodworkinstitute.com, shall TAKE PRECEDENCE OVER THESE RULES, subject to their date of posting and a project's bid date.

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	DESCRIPTION	E	C	P
↑	GENERAL			
4.1	4.1.1	Aesthetic GRADE RULES apply only to exposed and semi-exposed surfaces visible after installation.		
	4.1.2	LUMBER shall conform to the requirements established in Section 3.		
	4.1.3	SHEET PRODUCTS shall conform to the requirements established in Section 4.		
	4.1.4	WOODWORK not addressed herein shall be manufactured from solid stock, laminated stock, veneered stock, or a combination thereof.		
	4.1.5	BACKING SHEET shall conform to the requirements established in Section 4.		
	4.1.6	EXPOSED, SEMI-EXPOSED, and CONCEALED surfaces shall be as listed under the GENERAL portion of this section.		
	4.1.7	STANDING and RUNNING TRIM shall be furnished as material only, not assembled.		
	4.1.8	Where MULTIPLE OPTIONS are permitted, it shall be the manufacturer's choice unless specified otherwise.		
	4.1.9	FIRE-RETARDANT RATING , if required, shall be so specified.		
	4.1.10	SPECIFIC PROFILE , if required, shall be so specified or drawn.		
	4.1.11	SPECIAL ORNAMENTAL DETAIL or joinery, if required, shall be so specified or drawn.		
	4.1.12	Radius moldings are laminated and formed, preshaped, or machined to the radius and fabricated in the longest practical lengths to minimize installer joints.		
	4.1.13	For TRANSPARENT FINISH , if the SPECIES is not specified, the use of either hardwood or softwood (plywood or solid stock) of one species for the entire job is permitted at the manufacturer's option.		
	4.1.14	STAIRWORK , including handrails, shall conform to all applicable codes and requirements, and:		
	4.1.14.1	Nothing in these standards shall overrule such.		
	4.1.15	Where GLUING or LAMINATION occurs:		
	4.1.15.1	DELAMINATION or SEPARATION shall not occur beyond that which is allowed in Sections 3 & 4.		
4.1.15.2	Use of CONTACT ADHESIVE is not permitted.			
4.1.16	BACK-PRIMING is not the responsibility of the manufacturer and/or installer, unless the material is furnished prefinished.			
4.1.17	FIRST-CLASS WORKMANSHIP is required in compliance with these standards.			
7	4.2 MATERIAL			
MATERIAL	4.2.1	Shall be lumber or sheet products of the species and Grade specified.		
	4.2.2	Shall conform in finish width, thickness, and length of lumber to Section 3.		
	4.2.3	Shall not have defects, either natural or manufactured, that exceed those permitted.		
		4.2.3.1	Permits unlimited finger-joints.	●
	4.2.4	Requires plain-sawn lumber.		
	4.2.5	TREADS shall be a minimum of 1" (25.4 mm) in thickness.		
	4.2.6	CLOSED STRINGERS shall be a minimum of 3/4" (19 mm) in thickness.		
	4.2.7	Permits defects, both natural and manufactured, if covered by adjoining members or otherwise concealed when installed.		
	4.2.8	States figure is not a function of a species grade and must be specified in the contract document.		
↓	4.2.9	Permits warp, which can be held flat and straight with normal attachment.		