



Deck Railing Considerations for Ipe Installations

Contractor Quick Sheet

Code Requirements at a Glance (IRC 2024)

Requirement	Residential (IRC)	Commercial (IBC)
Guard Required	Deck >30" above grade	All elevated surfaces
Min Guard Height	36"	42"
Baluster Spacing	<4" openings	<4" openings
Stair Baluster	<4"■"	<4"■"
Triangle Opening	<6" sphere	<6" sphere
Bottom Rail Gap	<4" from deck	<4" from deck
Post Spacing	6'–8' max (per mfr)	Per manufacturer

Note: CA and some localities require 42" for residential.

Load Requirements

Component	Concentrated Load	Uniform Load
Top Rail / Guard	200 lbs (any direction)	50 lbs/linear ft
Infill / Balusters	50 lbs	50 lbs/sf
Handrail (stairs)	200 lbs (any direction)	200 lbs/linear ft

Manufacturers often design to 2.5x safety factor (500 lb test load).

Ipe-Specific: Pilot Hole Sizing

Fastener	Pilot Hole	Notes
3/8" Lag Bolt	1/4"	Post-to-rim joist attachment
1/2" Carriage Bolt	1/2" (through)	Through-bolt preferred for posts
#10 Structural Screw	9/64"	Rail-to-post connections
#8 Trim Screw	1/8"	Baluster attachment

CRITICAL: Always pre-drill Ipe. Failure to pre-drill will split wood and break fasteners.



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■ Post Mounting Options

Method	Strength	Best For
Surface Mount	Good	Retrofit, low-profile
Fascia Mount	Better	Most residential
Through-Post	Best	New construction, commercial
Notched Post	Best	Maximum rigidity

For Ipe posts: Use through-bolts (not lag screws alone) for structural connections.

■ Handrail Requirements (Stairs)

Specification	Requirement
Height	34"–38" above stair nosing
Graspability	1¼"–2" diameter (circular) or equivalent
Clearance	Min. 1½" from wall or guard
Continuity	Must be continuous full length
Returns	Must return to post or wall at ends

Note: Flat 2x4 or 2x6 caps do NOT meet graspable handrail requirements.

■ Baluster Spacing Quick Reference

- Using 1½" square balusters: Space ~5.5" on center (≈4" gap)
- Using ¾" square balusters: Space ~4.75" on center (≈4" gap)
- **Always verify with 4" sphere test before final inspection**

Always verify with local building codes. This guide is for reference only.