

Product Name

RoyalCast™ Fiberglass Columns

Material: Fiberglass-Reinforced Polymer Marble Composite (Cast Fiberglass)

Applications: Interior and Exterior

Function: Load-Bearing and Decorative Architectural Columns

Manufacturer

Royal Corinthian®

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Product Description

RoyalCast® Cast Fiberglass Columns are factory-manufactured architectural columns produced using a centrifugal casting process. The fiberglass-reinforced polymer marble composite—commonly referred to as cast fiberglass—provides high compressive strength, dimensional stability, and durability for interior and exterior applications. RoyalCast columns are available as monolithic (one-piece) load-bearing columns and may also be specified for decorative, non-load-bearing applications where structural support is provided by independent framing systems.



Load-Bearing Performance (Monolithic Columns Only)

Load-bearing capacity applies only to monolithic RoyalCast columns. Material properties were evaluated by Raths, Raths & Johnson, Inc. using ASTM D695-90 testing. In addition, theoretical ultimate column buckling capacities were calculated using Euler buckling theory under concentric loading assumptions.

Split columns, column covers, and wrap-style column products are decorative only and are not intended to support vertical loads.

Allowable axial loads are provided for specification and preliminary design. Where available, theoretical ultimate buckling capacities are shown for reference. Final allowable loads shall be confirmed by the Engineer of Record.

Column Diameter	Allowable Axial Load (lbs)	Theoretical Ultimate Buckling Load (lbs)
6"	8,000	—
8"	10,000	12,842
10"	14,000	18,865
12"	18,000	21,294

14"	20,000	31,646
16"	20,000	51,297
18"	20,000	78,053
20"	20,000	—
22"	20,000	—
24"	20,000	—
28"	20,000	—
30"	20,000	—
36"	20,000	—
42"	20,000	—

Fire Performance

Surface burning characteristics of the cast fiberglass material were evaluated in accordance with ASTM E84-16 (UL 723 equivalent).

Class A fire-rated material is available when specified. Non Class A material is standard unless otherwise noted.

Metric	Result
Flame Spread Index (FSI)	15
Smoke Developed Index (SDI)	250
Interior Finish Classification	Class A (NFPA 101 criteria)



Applications

Monolithic RoyalCast columns may be used as load-bearing or decorative architectural columns in interior and exterior applications including porticos, colonnades, covered walkways, building entries, and similar architectural features.

Split columns, column covers, and wrap-style products are intended for decorative use only and must be installed over independent load-supporting framing systems.

Design Notes

- Allowable loads apply to monolithic columns only.
- Loads shown are axial and concentric.
- Theoretical ultimate loads are provided for reference and are not design loads.
- Engineer of Record shall evaluate eccentric loading, lateral forces, bearing conditions, and connection detailing.
- Long-term creep, temperature effects, and environmental exposure shall be considered for exterior use.

References

- Raths, Raths & Johnson, Inc., "Royal Corinthian Cultured Marble ASTM D695-90 Tests and Theoretical Column Capacities," December 21, 1994.
- Commercial Testing Company, ASTM E84-16 Report No. 17-01042, January 5, 2017.

