

Section 04 72 00 — Architectural Cast Stone, Precast Concrete & GFRC

Sills, Lintels, and Trim

CSI MasterFormat 04 72 00 · Mesa Precast · archstoneglobal.polsia.app

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes:

1. Window sills, stooling, and sub-sills
2. Lintels and beam ends
3. Door and window surrounds, casings, and trim
4. Custom profile trim and decorative elements

B. Related Sections:

1. Section 04 20 00 — Unit Masonry (mortar and anchors)
2. Section 07 92 00 — Joint Sealants (weepers and sealants)

1.3 REFERENCES

- A. ASTM C1364 — Standard Specification for Architectural Cast Stone
- B. ASTM C1194 — Standard Specification for Precast Concrete
- C. ASTM C1195 — Standard Specification for Architectural Precast Concrete
- D. ACI 318 — Building Code Requirements for Structural Concrete
- E. CSI MasterFormat 04 72 00 — Architectural Cast Stone

1.4 SUBMITTALS

- A. Product Data: Manufacturer's literature describing products, material properties, and finish options.
- B. Shop Drawings: Elevation views, section profiles, joint details, and anchorage methods.
- C. Samples: Submit minimum 6" long samples of each finish color and profile specified.
- D. Test Reports: Certificates of compliance with ASTM standards and independent laboratory results.
- E. Quality Assurance: Documentation of fabricator's experience and plant certification.

1.5 QUALITY ASSURANCE

- A. Fabricator: Minimum 10 years' experience in architectural cast stone manufacturing. Plant certified by regional building authority or third-party inspection agency.
- B. Testing: Independent laboratory testing per ASTM C1364 for compressive strength (6,500 psi minimum) and absorption (6% maximum).
- C. Mock-ups: Before production, construct full-size mock-up of each unique profile.

1.6 DELIVERY, STORAGE & HANDLING

- A. Shipping: Crate units on padded racks. Identify each piece with shop drawing number.
- B. Storage: Store off ground on padded supports. Protect from damage and moisture.
- C. Handling: Lift units at designed pick-up points. Do not drop, drag, or impact units.

PART 2 — PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Mesa Precast, Mesa, AZ
Contact: Jess Mason, 480-600-6776
 1. Additional manufacturing locations: Texas, Pennsylvania
 2. Representative: contact via archstoneglobal.polsia.app
- B. Substitutions: Equal products by other certified manufacturers may be submitted 10 days prior to bid.

2.2 MATERIALS

- A. Cast Stone: ASTM C1364, non-air-entrained, dry-cast vibration process.
 1. Compressive Strength: 6,500 psi minimum at 28 days
 2. Absorption: 6% maximum by weight
 3. Freeze-Thaw: 300 cycles minimum, no visible deterioration
- B. Coloring: Inorganic iron oxide pigments, UV-stable, minimum 5% by weight of cement.
- C. Reinforcement: Non-stressed only. Galvanized steel or FRP bars where indicated.

2.3 PROFILES & CONFIGURATIONS

- A. Window Sills: Drip-notched profile with wash slope (min 1:12). Standard lengths up to 12 ft.
- B. Lintels: Coordinate profile with specified cornice and trim. Pre-drilled anchor slots at 24" o.c.
- C. Door/Window Surrounds: Profile per approved shop drawings. Return visible edges.
- D. Tolerances: $\pm 1/8"$ on dimensions, $\pm 1/16"$ on details, ± 1 degree on angles.

2.4 FINISHES

- A. Standard Finishes:
 1. Portland (ASTM C1364 Color 1): Warm neutral gray
 2. Bucks County (ASTM C1364 Color 2): Buff/tan
 3. Old World (ASTM C1364 Color 3): Antique cream
 4. Carbon (ASTM C1364 Color 4): Charcoal gray
- B. Surface Finish: Ground and honed, no visible defects at 10 ft.
- C. Custom Colors: Match architect's sample. Minimum 4-week lead time.

2.5 ANCHORAGE & ACCESSORIES

- A. Anchors: Hot-dip galvanized steel, minimum 3/8" diameter threaded rods or strap anchors.
- B. Setting Shims: Plastic or stainless steel only. No wood or ferrous metal shims.
- C. Weepholes: 3/8" diameter, at 24" o.c. maximum at base of sill courses.

PART 3 — EXECUTION

3.1 EXAMINATION

- A. Inspect prepared substrate for dimensional compliance and anchorage readiness.
- B. Do not begin installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Setting: Set cast stone units in fresh mortar bed (Type N or S). Maintain level and aligned.
- B. Anchorage: Install all specified anchors and dowels. Do not bridge joints with anchors.
- C. Joints: 3/8" nominal joint width. Strike flush or slightly recessed. Do not pack joints.
- D. Cutting: Cut cast stone with wet saw. Do not use hammer-and-chisel for structural cuts.

3.3 TOLERANCES

- A. Alignment: ±1/8" from building layout lines. ±1/16" from level or plumb.
- B. Joints: ±1/16" from specified joint width.
- C. Surface: No visible steps exceeding 1/32" between adjacent units.

3.4 CLEANING & PROTECTION

- A. Protection: Cover completed work with heavy paper or plywood during construction.
- B. Cleaning: Plain water or mild detergent. No acidic cleaners on limestone-colored units.
- C. Sealant: After mortar cure, apply backer rod and sealant at all perimeter joints.

END OF SECTION 04 72 00

Material Selection Guide

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Property	Precast Concrete	Cast Stone	GFRC
Compressive Strength	3,500–4,500 psi	6,500 psi min	4,000 psi min
Water Absorption	<6% (ASTM C642)	<6% (ASTM C1364)	N/A (non-porous face)
Freeze-Thaw Cycles	300 (ASTM C666)	300 (ASTM C666)	300 (ASTM C666)
Weight (approx.)	~140 pcf	~135 pcf	~25–30 psf (panel)
Dimensional Tol.	±1/4"	±1/8" / ±1/4" in 10'	PCI MNL-128
Key ASTM Standards	C150, C33, C642, C1194	C1364, C1185, C947, C1194	C947, C1116, PCI MNL-128
CSI Reference	03 45 00	04 72 00	03 49 00
Anchors / Sealant	Stainless steel	Stainless steel	Galvanized / Stainless
Sealant Ref.	Section 07 92 00	Section 07 92 00	Section 07 92 00

Part 3 Execution Notes — Key Requirements

1. Mortar: Type N or S (ASTM C270). Full-coverage bearing on all units.
2. Joints: 3/8" nominal. Backer rod + sealant at all horizontal and perimeter joints (Section 07 92 00).
3. Anchors: Stainless steel or hot-dip galvanized steel. No uncoated ferrous metal in contact with stone.
4. Tolerances: ±1/8" dimensional. ±1/4" in 10 feet from level or plumb.
5. Cleaning: Plain water or mild pH-neutral detergent. No acid cleaners on limestone-colored finishes.
6. Cutting: Wet saw only. No hammer-and-chisel for structural cuts.
7. Submittals: Product data, shop drawings, samples, test reports required before fabrication starts.

Mesa Precast — Technical Sales Contact

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 archstoneglobal.polsia.app · Mesa, AZ — also serving TX and PA