

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

## Coping & Parapet Caps

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### PART 1 — GENERAL

#### 1.1 SUMMARY

A. This Section includes:

1. Precast architectural cast stone coping units
2. Parapet wall caps (single-slope, double-slope, and flat profiles)
3. GFRC coping where scheduled on drawings

B. Related Sections:

1. Section 04 20 00 — Unit Masonry
2. Section 07 92 00 — Joint Sealants

#### 1.2 REFERENCES

- A. ASTM C1364 — Standard Specification for Architectural Cast Stone
- B. ASTM C1194 — Standard Test Method for Compressive Strength of Architectural Cast Stone and Precast Concrete
- C. ASTM C666 — Standard Test Method for Resistance to Rapid Freezing and Thawing
- D. ASTM C947 — Standard Test Method for Flexural Properties of Thin-Section GFRC
- E. ASTM C642 — Standard Test Method for Density, Absorption, and Voids in Concrete

#### 1.3 SUBMITTALS

- A. Product Data: Manufacturer's data sheets, mix designs, and test reports.
- B. Samples: Two samples minimum, 6" minimum length, each finish color.
- C. Shop Drawings: Layout, profiles, dimensions, anchoring details.
- D. Test Reports: ASTM C666 freeze-thaw results; compressive strength certificates.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer: Minimum 10 years' experience manufacturing architectural cast stone per ASTM C1364.
- B. Compressive Strength: Minimum 6,500 psi at 28 days.
- C. Absorption: Maximum 6% per ASTM C642.
- D. Freeze-Thaw: 300+ cycles per ASTM C666 with less than 0.10% mass loss.

#### 1.5 DELIVERY, STORAGE & HANDLING

- A. Shipping: Crate units on padded racks. Label each with shop drawing mark and piece number.
- B. Storage: Store off ground on padded supports. Protect from damage, soiling, and moisture.
- C. Handling: Lift at designed pick points. Do not 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 CAST STONE COPING

- A. Material: Architectural cast stone per ASTM C1364.
- B. Mix Design: Portland cement, limestone aggregate, integral pigments, mineral admixtures.  
No fly ash in exposed faces.
- C. Profiles: As shown on drawings — single-slope / double-slope / flat as specified.
- D. Drip Edge: Integral. Minimum 3/4" projection.
- E. Color: Portland Grey / Bucks County Buff / Old World Cream / Carbon Blend as selected.
- F. Finish: Smooth-form, acid-washed, or sandblasted as specified.
- G. Joints: 3/8" open joints with backer rod and sealant per Section 07 92 00.

#### 2.3 PHYSICAL PROPERTIES (ASTM C1364)

- A. Compressive Strength: 6,500 psi minimum at 28 days.
- B. Absorption: 6% maximum by weight.
- C. Freeze-Thaw (ASTM C666): 300 cycles minimum, no visible deterioration.
- D. Dimensional Tolerances:  $\pm 1/8"$  on dimensions.  $\pm 1/4"$  in 10 feet from level/plumb.

#### 2.4 GFRC COPING (Where Scheduled)

- A. Material: Glass fiber reinforced concrete per ASTM C947 and PCI MNL-128.
- B. Glass Fiber Content: Minimum 5% by weight, alkali-resistant.
- C. Panel thickness: Minimum 3/4" face mix.

#### 2.5 ANCHORAGE

- A. Anchors: Stainless steel or hot-dip galvanized steel, minimum 3/8" diameter.
- B. Setting Shims: Plastic or stainless steel only.
- C. Control Joints: At maximum 20-foot intervals unless noted otherwise.

### PART 3 — EXECUTION

#### 3.1 INSTALLATION

- A. Install per manufacturer's written instructions and shop drawings.
- B. Bearing surfaces: Level, clean, free of debris. Mortar bed or setting compound

- as recommended by manufacturer.
- C. Anchor cast stone per shop drawings using stainless steel anchors.
- D. Control joints at maximum 20-foot intervals unless noted otherwise.
- E. Slope coping minimum 1/8" per foot away from building.

**3.2 TOLERANCES**

- A. Variation in cross-section: ±1/8".
- B. Variation in length: ±1/8".
- C. Variation from level: ±1/4" in 10 feet.
- D. Joint width: ±1/16" from specified joint width.

**3.3 CLEANING & PROTECTION**

- A. Protection: Cover completed work with heavy paper 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 horizontal joints and perimeter conditions. Section 07 92 00.

END OF SECTION 04 72 00

**Material Selection Guide**

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