



Facilities Planning and Construction

Design and Construction Standards

DIVISION 04 – Masonry

Preface

The Texas Tech University System's 'Design and Construction Standards'

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minimum (uality re(uirements' esign Professionals are encouraged to identify and include e(uivalent #roducts and/or manufacturers o!!ering com#arable #roducts to !acilitate o#en bidding environments'

General Requirements for Masonry and Masonry Accessories

Texas Tech is committed to a contiguous architectural aesthetic on the TTU, TTU+SC and TTU+SC ,I Paso cam#uses, incor#orating the existing ado#ted Spanish Renaissance

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- 1' The construction details'
- 6' " aterial descri#tions'
- B' imensions o! individual com#onents and #roliles'
- E' Finishes o! masonry units, mortars, grouts, and sealants'
- : ' -ns#ection recommendations and #reventive maintenance #lan'
- A' Sho# dra) ings sho) ing labrication and installation details !or each stone unit including details and dimensions, details o! rein!orcement, liting connections, anchorages, building elevations, and indication o! !inished !aces' Sho# dra) ings shall be sealed by a licensed Professional , ngineer registered in the State o! Texas) ho is legally (ualified to #ractice the engineerin

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1<1H'

S#ecily the !ollo) ing ty#es o! mortar !or a##lications stated unless another ty#e is indicated'

1' For masonry belo) grade or in contact)ith earth, use Ty#e S or " \$Use " only il it

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" Masonry Joint reinforcement for multi-layer masonry to be adjustable (one piece type, either ladder or truss design, with one side rod at each face shell of backing and with separate adjustable ties) with angle and eye connections having a maximum adjustment of 1 1/8 inches"

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- ❖ "ission :<E \$P, P :<E 1 99A<B1% 1 E9=
- ❖ "ission :<: \$P, P :<: 1 99A<B6% 1 <; =

■ &n,elo State "niversity

2ric/ must be e(uivalent to masonry #roducts manu!a

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location indicated by Texas Tech' Sample panels shall contain minimum of '00 bricks for best evaluation and confirmation of blend conformance' Construct consistent)ith the exterior design'

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Mortar for concrete masonry

- 1' Portland Cement Mortar for concrete masonry shall be Type S or Type N for exterior construction.
- 6' Masonry Cement Mortar for concrete masonry shall be Type S.
- B' Aggregate graded #er shall be Type I.

Mortar for concrete masonry

- 1' Portland Cement Mortar for concrete masonry shall be Type S or Type N for exterior construction.
- 6' Masonry Cement Mortar for concrete masonry shall be Type S.
- B' Aggregate graded #er shall be Type I, with a maximum size of 1/4 inch.
- E' Do not use Calcium Chloride, air entraining, or water-reducing admixtures in grout.
- : ' Grout slump shall be between 1 to 5 inches.
- A' Masonry mortar or concrete shall not be used for grout.

04 4) Anchored Stone Masonry

This section includes all exterior cut and carved stone. Installation meeting is required to review shop drawings, specifications, anchorage, supports, sealants/mortar, cleaning, and sealing prior to commencement of the work.

Dimensional stone includes the following:

- 1' Panels set with individual anchors
- 6' Panels set with wire ties
- B' Trim units, including bands, copings, sills, lambas, and pilasters
- E' Units with carving or inscriptions

Specify that the Contractor shall use a qualified manufacturer of dimensional stone cladding systems that is similar to those indicated for this project that has sufficient production capacity to manufacture required units. Dimensional stone units shall be obtained through a single source from a single manufacturer throughout the project. References will be made available upon request.

Specify that the installer shall have a minimum of 5 years documented experience and is qualified for installing cut stone to the level of this project. References will be made available upon request.

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Do not allow use of frozen materials or materials mixed or coated with ice or frost. Do not allow building on frozen substrates. Contractor shall comply with cold weather construction requirements in *C- :B<'10* SC , A0T " S A<6 and comply with hot weather construction requirements in *C- :B<'10* SC , A0T " S A<6'

Building stone is to be carved stone, with the exception of steps, porches, or landings that receive foot traffic, and shall be limestone (equal to Tueders Quarry, Kones County, Texas). Limestone is to comply with *ST " C :A; and be classified as medium density'

Exterior traffic surfaces are to be an equal of the original Carthage Stone for exterior steps, porches, landings and other traffic surfaces'

Setting Mortar shall be composed of

- 1' Three (3) parts Portland Cement, *ST " C1 :< \$nonstaining%, Type -'
- 6' Three (3) parts hydrated lime, *ST " C6<9, Type F'
- B' Six (6) parts sand, *ST " C1EE except graded with 100% passing the No. 10 sieve for joints of 1/4 inch or less'

Pointing Mortar shall be composed of

- 1' Three (3) parts white Portland Cement, *ST " C1 :< \$nonstaining%, Type -'
- 6' Three (3) parts hydrated lime, *ST " C6<9, Type F'
- B' Three (3) parts sand, *ST " C1EE except graded with 100% passing the No. 10 sieve for joints of 1/4 inch or less'

Tool joints concave with a round tool having a diameter 1/8 inch larger than the joint width'

Setting shims shall be stainless steel or plastic buttons of the thickness required for the joint size'

The Design Professional will make recommendations to TTUS FP5C on whether masonry mortar beds and joints are to be used and/or sealant joints are preferred for the project. Seal coat for cut stone is recommended by the Design Professional, use SureSeal Leather Seal Natural Stone Treatment C2. Seal coat is required, concealed surfaces are to be sealed before setting. Seal coat will be installed in accordance with industry standards and after the moisture in the stone has stabilized. Joint sealant is used, specify 3C9:A product. The

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Specify that the installer shall have a minimum of five years documented experience and is (qualified for installing cast stone to the level of this project' . references) will be available upon request'

do not allow use of fired materials or materials mixed or coated with ice or frost' do not allow building on fired substrates' Comply with cold weather construction requirements in *C-

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Stone Treatment C 2' -! a seal coat is re(uired, concealed surfaces are to be sealed before setting' The seal coat) ill be installed #er Cast Stone -nstitute recommendations and after the moisture in the stone has stabili4ed' -! Koint sealant is used, s#eci!y 3 C 9:A #roduct' The o) 9:A color selection may include catalog order colors at no additional cost to the 3) ner and) ill be selected based on moc/1u# a##roval by FP5C'

Setting shims shall be stainless steel or high1density im#act #lastic buttons o! the thic/ness re(uired !or the koint si4e'

3) ner may engage a (ualified inde#endent testing agency to sam#le and test cast stone units according to *ST " C 1BAE'