Quality Assurance - Masonry Material Submittals and Testing
CBC: 2019 California Building Code
TMS 402: 2016 Building Code Requirements for Masonry Structures and Commentary
TMS 602: 2016 Specification for Masonry Structures and Commentary

Masonry Veneer
TMS 402 Ch. 12
CBC Ch. 14

Seismic Design Category
D, E, F
CBC 1705.12.5
Periodic inspection of erection and fastening required for veneer >30 ft above grade or walking surface

Engineered Masonry

Risk Category I, II, III
TMS 602 Table 3
CBC 1705.4
Exception 1.

Risk Category IV
TMS 602 Table 3
CBC 1705.4.1

Level 1 Quality Assurance
TMS 602 Table 3 - Minimum Verification Requirements
• Submit Certifications

CMU: ASTM C90 Certification
TMS 602 1.5. B.2.c

Mortar: ASTM C270
Proportion Specification
Mix Design / Certification
TMS 602 1.5. B.1.a.1 / 1.5 B.2.d

Mortar: ASTM C270
Property Specification
Mix Design & Test Rpt / Certification
TMS 602 1.5. B.1.b.1 / 1.5 B.2.d

Grout: ASTM C476
Proportion Specification
Mix Design / Certification
TMS 602 1.5. B.1.a.1 / 1.5 B.2.d

Grout: ASTM C476
Property Specification
Mix Design & Test Rpt / Certification
TMS 602 1.5. B.1.b.1 / 1.5 B.2.d

Self-Consolidating Grout: ASTM C1019, C1611
Property Specification
Mix Design & Test Rpt / Certification
TMS 602 1.5. B.1.b.1 / 1.5 B.2.d

Level 2 Quality Assurance
TMS 602 Tables
3 - Minimum Verification Req.
4 - Min. Special Inspection Req.
• Submit Certifications
• Sample panels required by TMS 602 Article 1.6D
• Special Inspections
• Verification of slump flow for self-consolidating grout
• Verification of f’m prior to construction (engineered masonry)

OR

Level 3 Quality Assurance
TMS 602 Tables
3 - Minimum Verification Req.
4 - Min. Special Inspection Req.
• Submit Certifications
• Sample panels required by TMS 602 Article 1.6D
• Special Inspections
• Verification of slump flow for self-consolidating grout
• Verification of f’m prior to construction and every 5K sq ft.
• Verification of proportions of materials in preblended mortar and grout

See Page 2
Acceptance - Strength Requirements

Angelus Block Co., Inc. supplies this information as an educational aid. References to code sections are not exhaustive, and those included herein are intended only to introduce the user to general concepts and examples of code treatment of this topic. It is the responsibility of the user to obtain engineering or other advisory services from licensed professionals for determining applicability to any specific project.
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Level 2 Quality Assurance
Prior to construction
TMS 602 Tables 3 and 4

Level 3 Quality Assurance
Prior to construction and each 5K sq ft of wall area
TMS 602 Tables 3 and 4

Compressive Strength Determination
TMS 602 1.4 B.

\[ f_m' = 2000 \]

OR

\[ f_m' > 2000 \]
Prism test recommended*

Unit Strength Method
TMS 602 1.4 B.2.b

CMU
ASTM C90

Bed joints not more than 5/8" thick

Grout conforms to TMS 602 2.2

Test per ASTM C140

Prism Test Method
TMS 602 1.4 B.3

Build/test per ASTM C1314

NOTE: 2019 CBC Chapter 21 also contains sections related to quality assurance that are specific to OSHPD 1R, 2 and 5, and DSA-SS/CC. Those references are not included here. As they have similarities to DSA and OSPHD requirements in Chapter 21A, they are included in Quality Assurance 2019 CBC-DSA.

*Where \( f_m' > 2000 \) net psi, prism tests are recommended. The values in the Unit Strength table are very conservative and can require higher strength cmu than necessary for the design strength. Prism tests more accurately assess the combined strengths of cmu, mortar, and grout, and may preclude the need for more expensive high stress cmu.

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