

## **TESTING REQUIREMENTS FOR NEW NOISE BARRIER SYSTEM SUBMITTALS**

For block wall system or alternative block wall system include test data from performing:

- ASTM C140 “Standard Methods of Sampling and Testing Concrete Masonry Units”
- ASTM C 90 “Standard Specifications for Loadbearing Concrete Masonry Units”

Alternative block wall systems also include:

- ASTM D5048 “Measuring the Comparative Burning Characteristics and Resistance to Burn-Through of Solid Plastics Using 125-mm Flame”, Caltrans requires average flaming plus glowing time of less than 3 seconds.

Relating to coloring/weathering:

- Exterior surface will not show chalking, cracking, checking or color difference after 800 hours of accelerated weathering under ASTM D4587, test cycle 2. Calculate the maximum color difference using a color instrument with a geometry of 45/0 and Illuminant/Observer D65/10. The maximum color difference will be Delta E\* less than 2.0 under ASTM D2244, using the CIELAB Uniform Space and Color Difference Equation.
- Color pigments for concrete are required to conform to ASTM C979

Acoustic Standards:

ASTM E90: “Standard Test Method of Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements”. Test results must indicate a Transmission Loss (TL) that is 25 or more to be acceptable.

Absorptive Barrier:

ASTM C423: “Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method”. Test results must indicate a Noise Reduction Coefficient (NRC) of no less than 0.80 to be acceptable.

A laboratory that is accredited by the National Voluntary Laboratory Accreditation Program or accredited by Mutual Recognition Arrangement with the National Cooperation for Laboratory Accreditation Program must be performed the aforementioned acoustic standards test procedures.

Crash test data for the system in accordance with MASH is required if the noise barrier system is located in the clear recovery zone.

The evaluation process will require additional testing to satisfy a wide variety of functional requirements in addition to those initial tests listed above. Details will be provided subsequent to satisfactory completion of the needs assessment phase.

# Materials Testing Requirements for New Noise Barrier System Submittal Products

