

## LABORATORY TESTING CONSTRUCTION MATERIALS

### ASPHALT CONCRETE:

Bulk Specific Gravity of Core, Coated (CTM 308, ASTM D1188)  
Hveem Unit Weight (CTM 304/308)  
Hveem Unit Weight (ASTM D2727)  
Hveem Stabilometer Value (CTM 304)  
Asphalt Concrete JMF Verification  
Marshall Unit Weight (ASTM D1559), 3 plug average  
Marshall Stability/Flow (ASTM D1560), set  
Percent Bitumen (CTM 382)  
Percent Bitumen & Gradation of Extracted Sample (CTM 382/202)  
Film Stripping (CTM 302)  
HMA Moisture Content (CTM 371)  
Specific Gravity (Rice) of Bitumen Mix (ASTM D2041)  
Swell Test – Asphalt Concrete (CTM 305)  
Ignition Oven Correction Factor Aggregate and oil  
Ignition Oven Correction Factor Aggregate and oil w/ RAP  
Hveem AC Mix Design  
Marshall AC Mix Design  
Tensile Strength Ratio, Field Mix (CTM 371)  
Tensile Strength Ratio, Lab Mix (CTM 371)  
Tensile Strength Ratio, Lab Mix w/ Lime (CTM 371)  
Tensile Strength Ratio, Field Mix (ASTM D4867)  
Tensile Strength Ratio, Lab Mix (ASTM D4867)  
Tensile Strength Ratio, Lab Mix w/ Lime (ASTM D4867)

### REINFORCED CONCRETE TESTS:

Compressive Strength, per cylinder (ASTM C39)  
Compressive Strength, per core (ASTM C39/42)  
Flexural Strength, 6x6x18 beam (ASTM C78)  
Compressive Strength, Shotcrete Panel, (ASTM C39/42)  
Compressive Strength of Shotcrete Cores  
Removal of Shotcrete Cores, In Lab  
Compressive Strength, Light Weight Concrete Fill  
Drying Shrinkage, 3 specimens, 28-day (ASTM C157)  
Modulus of Elasticity (ASTM C469)  
Tensile Strength, Splitting (ASTM C496)  
Petrographic Analysis of Cementitious Mat  
Cement Content Analysis of Conc. (ASTM C1084)  
Coefficient of Thermal Expansion  
Concrete Trial Batch w/ lab testing

### STRUCTURAL MASONRY:

Compressive Strength of Composite Prism,  
8x8x16 (ASTM C1314)  
8x12x16 (ASTM C1314)  
Compressive Strength of Masonry Block, (ASTM C140)  
Linear Shrinkage of Masonry Block, (ASTM C426)  
Shear Test of Masonry Cores, 6" (DSA)  
Compressive Strength of Masonry Cores, 6"  
Dimensions of Masonry Block, Set of 3 (ASTM C140)  
Efflorescence, Block with Mortar  
Efflorescence, Block only,  
Absorption of Masonry Block (ASTM C140),  
Unit Weight of Masonry Block (ASTM C140),  
Moisture Content of Masonry Block (ASTM C140),  
Mortar Compressive Strength  
2x4, per cylinder (UBC STD 21-16)  
Grout Compressive Strength  
2x2x2, per cube (ASTM C109)  
3x3x6, per cube (UBC STD 21-18)  
Brick Compressive Strength, 5 brick set (ASTM C67)  
Brick Absorption Test (ASTM C67) 5 or 24-hour  
submersion, Efflorescence, Brick (ASTM C67)  
Modulus of Rupture (ASTM C67)  
Moisture As-Received (ASTM C67)  
Saturation Coefficient/Absorption

## LABORATORY TESTING (CONTINUED) CONSTRUCTION MATERIALS

### STRUCTURAL STEEL

High Strength Bolt Testing (ASTM F606) Hardness, bolt, washer, or nut  
Bolt Wedge Tensile, up to 7/8"  
Bolt Wedge Tensile, 1 to 1-1/4"  
Bolt Wedge Tensile, over 1-1/4"  
Bolt Proof Load, up to 7/8"  
Bolt Proof Load, 1 to 1-1/4"  
Bolt Proof Load, over 1-1/4"  
Nut Proof Load, up to 7/8"  
Nut Proof Load, 1 to 1-1/4"  
Nut Proof Load, over 1-1/4"  
Bolt Assembly Test Series  
Rebar, Tensile Test (ASTM A370)  
    No. 9 bar and smaller  
    No. 10-14 bar  
    No. 18 bar  
Rebar, Bend Test (ASTM A370)  
    No. 9 bar and smaller  
    No. 10-14 bar  
Welded Rebar (CTM 670)  
    No. 9 bar and smaller  
    No. 10-14 bar  
Mechanically Spliced (CTM 670)  
    No. 9 bar and smaller  
    No. 10-14 bar  
    No. 18 bar  
    Slippage Test in Addition to Tensile, each  
Structural Steel, Tensile Test (ASTM A370)  
    100k or less  
    101k-200k  
Structural Steel, Bend Test  
Structural Steel, Pipe Flattening Test  
Seven Wire Strand, Tensile/MOE (ASTM A416)  
Seven Wire Strand, Tensile Only (ASTM A416)  
Machining and Prep. of Structural Steel  
Structural Steel Chemical Analysis  
Skidmore Bolt Calibration, In Lab  
Weld Procedure Qualification Test, Rebar  
Welder Qualification Test, Rebar  
Weld Procedure Qualification Test  
Welder Qualification Test  
Carbon Equivalent  
Carbon Equivalent, Including Calculation  
Macroetch Test of Welds  
Nelson Stud Tensile (ASTM A370)  
Charpy Impact Testing

### FIREPROOFING:

Spray-Applied Fireproofing, Density (ASTM E605)  
    Oven-Dry Method  
    Displacement Method

### ROOFING:

Asbestos Evaluation  
Asphalt Softening Point  
Roofing Material Analysis (ASTM D2829)  
    with Surfacing  
    without Surfacing  
Roofing Tile, Absorption  
Roofing Tile, Strength