



AGGREGATE SUBMITTAL

Report of Physical Properties and Aggregate Target Submittal

GRP Material Description: UTBC UDOT / 1.5"APWA

Report Date: January 29, 2024

GRP Material Code: GRAD

Reviewed by: Dan McDaniel

Source Location/Code: Hansen Pit North / 527

Report No. 527GRAD00224

| TEST RESULTS | | | | |
|---------------------------------|---|---|--------------|------------|
| Standard | PHYSICAL PROPERTIES | | Result | Test Spec. |
| ASTM C 29 AASHTO T19 | Unit Weight | Unit Weight, lbs./cu.ft. = | 118.0 | |
| | | Voids, % = | 26 | |
| | | <input type="checkbox"/> Jigged <input type="checkbox"/> Loose <input checked="" type="checkbox"/> Rodded | | |
| ASTM D1557 AASHTO T180 | Modified Proctor | Max. density, lbs./cu.ft. = | 136.5 | |
| | | Optimum Moisture, % = | 6.3 | |
| ASTM D698 AASHTO T99 | Standard Proctor | Max. density, lbs./cu.ft. = | 132.7 | |
| | | Optimum Moisture, % = | 7.5 | |
| ASTM D4318 AASHTO T89/90 | Liquid Limit Plastic Limit Plasticity Index | Liquid Limit= | 0 | |
| | | Plastic Limit= | 0 | |
| | | Plasticity Index= | NP | |
| ASTM C131 AASHTO T96 | L.A. Abrasion | Small Coarse Loss, % = | 24 | |
| | | Grading/Revolutions, = | B/500 | |
| ASTM C535 | L.A. Abrasion | Large Coarse Loss, % = | | |
| | | Grading/Revolutions, = | | |
| ASTM C 128/127 AASHTO T84/85 | Combined Specific Gravity & Absorption | Bulk Specific Gravity (dry) = | 2.557 | |
| | | Bulk Specific Gravity, SSD = | 2.579 | |
| | | Apparent Specific Gravity = | 2.617 | |
| | | Absorption, % = | 0.9 | |
| ASTM C 127 AASHTO T85 | Coarse Specific Gravity & Absorption | Bulk Specific Gravity (dry) = | | |
| | | Bulk Specific Gravity, SSD = | | |
| | | Apparent Specific Gravity = | | |
| | | Absorption, % = | | |
| ASTM D2419 AASHTO T176 | Sand Equivalent | Sand Equivalent, % = | 32 | |
| ASTM C 88 AASHTO T104 | Soundness | Coarse Soundness Loss, % = | 1 | |
| | | Sodium No. of Cycles = | 5 | |
| | Soundness | Fine Soundness Loss, % = | 1.0 | |
| | | Sodium No. of Cycles = | 5 | |
| ASTM C 1252 AASHTO T304 | Fine Aggregate Angularity | Uncompacted Voids, % = Method C (as received material) | | |
| ASTM C40 AASHTO T21 | Organic Impurities | Coarse Aggregate, % = | | |
| | | Fine Aggregate, % = | | |
| ASTM C142 AASHTO T112 | Clay / Friable Particles | Coarse Aggregate, % = | 0 | |
| | | Fine Aggregate, % = | 0 | |
| ASTM C123 AASHTO T113 | Lightweight Pieces | Coarse Aggregate, % = | 0 | |
| | | Fine Aggregate, % = | 0 | |
| ASTM D1883 AASHTO T193 | CBR | Surcharge = 10 lbs CBR @ 0.1"= | 65 | |
| | | Swell% = 0.0% CBR @ 0.2"= | 106 | |
| AASHTO 335 | Fractured Face | 1 or 2 Faces = | 1 | 2 |
| | | Fractured Face, % = | 100 | 97 |
| ASTM D2487 | Soil Classification | Group Symbol = | | |
| | | Group Name = | | |
| ASTM D2488 | Soil Description & Identification | Group Symbol = | | |
| | | Group Name = | | |

| SIEVE ANALYSIS | | |
|----------------------------------|------------------|----------|
| ASTM C136 | AASHTO T27 | |
| Sieve Size | Target % Passing | Spec. |
| 300 mm (12") | | |
| 250 mm (10") | | |
| 225 mm (9") | | |
| 200 mm (8") | | |
| 150 mm (6") | | |
| 125 mm (5") | | |
| 100 mm (4") | | |
| 75.0 mm (3") | | |
| 63.0 mm (2-1/2") | | |
| 50.0 mm (2") | | |
| 37.5 mm (1-1/2") | 100 | |
| 25.0 mm (1") | 91 | 82-100 |
| 19.0 mm (3/4") | 85 | 76-94 |
| 12.5 mm (1/2") | 79 | 70-88 |
| 9.5 mm (3/8") | 73 | 64-82 |
| 6.3 mm (1/4") | | |
| 4.75 mm (No.4) | 52 | 45-59 |
| 2.36 mm (No.8) | | |
| 2.00 mm (No.10) | 32 | |
| 1.18 mm (No.16) | 25 | 20-30 |
| 0.600 mm (No.30) | | |
| 0.425 mm (No.40) | 19 | |
| 0.300 mm (No.50) | 17 | |
| 0.180 mm (No.80) | | |
| 0.150 mm (No.100) | 11 | |
| 0.075 mm (No.200) | 9.1 | 6.1-12.1 |
| ASTM D422 | | |
| Hydrometer = | | |
| ASTM C566 AASHTO T255 | | |
| Moisture Content, % = | | |
| ASTM C136 AASHTO T27 | | |
| Fineness Modulus (FM) = | | |
| AASHTO M145 | | |
| Classification of Soils = | A1A | |
| ASTM D4791 Ratio = | 5:1 | |
| Flat & Elongated, % = | 0 | |