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Issue Date : 01.05.19

|                |           |
|----------------|-----------|
| Rock Type      | Igneous   |
| Particle Shape | Irregular |

## AGGREGATE PROPERTIES SUMMARY DATA SHEET

| Test Description                                                        | Specification Reference        | Coarse      | STR No. | Date   | Fine   | STR No. | Date   |
|-------------------------------------------------------------------------|--------------------------------|-------------|---------|--------|--------|---------|--------|
| Particle Density (Mg/m <sup>3</sup> )                                   | Oven Dry                       | 2.64        | 650721  | Mar-19 | 2.68   | 650733  | Mar-19 |
|                                                                         | S.S.D                          | 2.68        |         |        | 2.70   |         |        |
|                                                                         | Apparent                       | 2.75        |         |        | 2.74   |         |        |
| Water Absorption (%)                                                    |                                | 1.5         |         |        | 0.7    |         |        |
| Aggregate Abrasion Value (AAV)                                          | EN 1097-8 : 2009               | 3.8         | 650724  | Mar-19 |        |         |        |
| Los Angeles Abrasion (LA)                                               | EN 1097-2 : 2010               | 12          | 650725  | Mar-19 |        |         |        |
| Polished Stone Value (PSV)                                              | EN 1097-8 : 2009               | 60          | 650723  | Mar-19 |        |         |        |
| Magnesium Sulfate Soundness Value                                       | EN 1367-2 : 2009               | 7           | 591782  | Apr-18 |        |         |        |
| Drying Shrinkage (%)                                                    | EN 1367-4 : 2008               | 0.045       | 591783  | Apr-18 |        |         |        |
| Micro Deval (MD)                                                        | EN 1097-1 : 2011               | 12          | 647176  | Jan-19 |        |         |        |
| Chloride Ion Content (%)                                                | EN 1744-1 : 2009               |             |         |        | <0.001 | 591790  | Apr-18 |
| Total Acid Soluble Sulfate (%)                                          | EN 1744-1 : 2009               |             |         |        | 0.1    | 591791  | Apr-18 |
| Total Sulfur Content (%)                                                | EN 1744-1 : 2009               |             |         |        | 0.1    | 591792  | Apr-18 |
| Calcium Carbonate Equivalent (%)                                        | EN 196-21 : 2005               |             |         |        | 5.97   | 591795  | Apr-18 |
| pH Value                                                                | BS 1377 : Part 3 : 1990        |             |         |        | 8.8    | 591796  | Apr-18 |
| Frost Heave (mm)                                                        | BS 812 : Part 124-2009         | 12.0        | 591771  | Apr-18 |        |         |        |
| Petrographic Analysis*                                                  | EN 923-3 : 1997                | Low         | 591785  | Apr-18 |        |         |        |
| Plastic Limit (%)                                                       | BS 1377 : Part 2 : 1990        | Non-Plastic | 591775  | Apr-18 |        |         |        |
| Chemical Analysis - *XRF Method                                         | Na <sub>2</sub> O              |             |         |        | 3.09   | 591795  | Apr-18 |
|                                                                         | MgO                            |             |         |        | 5.38   |         |        |
|                                                                         | Al <sub>2</sub> O <sub>3</sub> |             |         |        | 16.83  |         |        |
|                                                                         | SiO <sub>2</sub>               |             |         |        | 50.36  |         |        |
|                                                                         | P <sub>2</sub> O <sub>5</sub>  |             |         |        | 0.14   |         |        |
|                                                                         | SO <sub>3</sub>                |             |         |        | 0.08   |         |        |
|                                                                         | K <sub>2</sub> O               |             |         |        | 0.4    |         |        |
|                                                                         | CaO                            |             |         |        | 8.52   |         |        |
|                                                                         | TiO <sub>2</sub>               |             |         |        | 0.79   |         |        |
|                                                                         | Mn <sub>2</sub> O <sub>3</sub> |             |         |        | 0.14   |         |        |
|                                                                         | Fe <sub>2</sub> O <sub>3</sub> |             |         |        | 7.25   |         |        |
|                                                                         | BaO                            |             |         |        | 0.06   |         |        |
| Loss on Ignition                                                        |                                |             |         | 6.50   |        |         |        |
| All tests carried out are UKAS accredited unless otherwise denoted by * |                                |             |         |        |        |         |        |
| Comment                                                                 |                                |             |         |        |        |         |        |



E.R. Goulden - Technical Director

AGGREGATE PROPERTIES SUMMARY DATA SHEET

| Test Description                            | Specification Reference | 0-4mm | STR No. | Date   | 1-5mm | STR No. | Date   |
|---------------------------------------------|-------------------------|-------|---------|--------|-------|---------|--------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.57  | 591789  | Apr-18 | 1.25  | 630389  | Oct-18 |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.77  |         |        | 1.42  |         |        |

| Test Description                            | Specification Reference | 2-6mm | STR No. | Date   | 6-14mm | STR No. | Date   |
|---------------------------------------------|-------------------------|-------|---------|--------|--------|---------|--------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.22  | 627996  | Oct-18 | 1.33   | 630388  | Oct-18 |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.44  |         |        | 1.50   |         |        |

| Test Description                            | Specification Reference | 4-10mm | STR No. | Date   | 8-16mm | STR No. | Date   |
|---------------------------------------------|-------------------------|--------|---------|--------|--------|---------|--------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.32   | 626524  | Oct-18 | 1.32   | 630387  | Oct-18 |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.50   |         |        | 1.48   |         |        |

| Test Description                            | Specification Reference | 10-20mm | STR No. | Date   | 16-32mm | STR No. | Date   |
|---------------------------------------------|-------------------------|---------|---------|--------|---------|---------|--------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.29    | 661173  | Apr-19 | 1.28    | 661172  | Apr-19 |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.53    |         |        | 1.45    |         |        |

| Test Description                            | Specification Reference | 4-20mm | STR No. | Date   | 20-40mm | STR No. | Date   |
|---------------------------------------------|-------------------------|--------|---------|--------|---------|---------|--------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.45   | 661174  | Apr-19 | 1.27    | 661171  | Apr-19 |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.64   |         |        | 1.44    |         |        |

| Test Description                            | Specification Reference | Type 1 | STR No. | Date   |  | STR No. | Date |
|---------------------------------------------|-------------------------|--------|---------|--------|--|---------|------|
| Bulk Density Loose (Mg/m <sup>3</sup> )     | EN 1097-3 : 1998        | 1.47   | 630385  | Oct-18 |  |         |      |
| Bulk Density Compacted (Mg/m <sup>3</sup> ) | EN 1097-3 : 1998        | 1.64   |         |        |  |         |      |



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