OPAQUE CERAMICS
OBSESSED WITH QUALITY

# LABORATORY TEST REPORT

## < 1 MICRON SHWET X

### TECHNICAL SPECIFICATIONS & TEST REPORT

**High purity zircon based opacifier designed for superior opacity, whiteness and consistent glaze performance in ceramic applications.**

### CHEMICAL ANALYSIS (%)

| PARAMETER | STANDARD | BATCH |
|---|---|---|
| $ZrO_2$ | 62.71 (±0.50%) | 62.85 |
| $HfO_2$ | 1.21 (±0.50%) | 1.21 |
| $SiO_2$ | 32.22 (±0.50%) | 32.14 |
| $Fe_2O_3$ | 0.06 (±0.01%) | 0.05 |
| $TiO_2$ | 0.14 (±0.03%) | 0.15 |
| $Al_2O_3$ | 1.49 (±0.20%) | 1.48 |

### PERFORMANCE TEST RESULTS

**ZIRCON TEST (1200°C)**

| TYPE | L | a | b | ΔE |
|---|---|---|---|---|
| STANDARD | 98.46 | -0.22 | 2.32 | 0.244 |
| BATCH | 98.33 | -0.09 | 2.48 | |

**WHITE GLAZE TEST (1150°C)**

| TYPE | L | a | b | ΔE |
|---|---|---|---|---|
| STANDARD | 88.23 | -0.29 | -2.54 | 0.193 |
| BATCH | 88.34 | -0.42 | -2.45 | |

**BLACK GLAZE TEST (1150°C) / BODY BUTTON TEST (1200°C)**

| TYPE | L | a | b | ΔE |
|---|---|---|---|---|
| STANDARD | 47.94 | -0.20 | -5.50 | 0.119 |
| BATCH | 47.89 | -0.16 | -5.40 | |

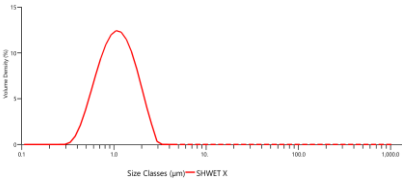
### PROPERTIES

| RADIOACTIVITY | RESULT/ACTIVITY |
|---|---|
| Thorium (232Th parent) | 0,46 Bq/g(±2,5%) |
| Uranium (238U parent) | 2,95 Bq/g(±2,5%) |
| Total (232Th + 238U) | 3,42 Bq/g(±2,5%) |
| Thorium (Th) | 114,00 ppm |
| Uranium(U) | 237,00 ppm |
| SPECIFIC GRAVITY | 4,60 g/cm3 |
| LOSS ON IGNITION | 1.00% max. |

### PARTICLE SIZE SUMMARY

| PARAMETER | | | STANDARD | BATCH |
|---|---|---|---|---|
| D-50 (µm) | | | 1.14 | 1.10 |
| D-90 (µm) | | | 2.36 | 2.13 |
| D-97 (µm) | | | 3.04 | 2.73 |
| % OF PARTICLE BELOW | | | | |
| | 1 µm | 2 µm | 5 µm | 10 µm |
| STANDARD | 42.87 | 86.96 | 100.00 | 100.00 |
| BATCH | 43.11 | 87.37 | 100.00 | 100.00 |

### PARTICLE SIZE DISTRIBUTION




### LAB DISPOSITION

**QUALITY YOU CAN TRUST.**

**PERFORMANCE YOU CAN SEE.**

✓ APPROVED

### LAB MANAGER APPROVAL

OPAQUE CERAMICS PVT. LTD. AHMEDABAD

MR. R.K. SINGH
AUTHORIZED SIGNATORY

BLOCK- A, OFFICE NO. 207, NAVRATNA CORPORATE PARK,
OPP. DISHMAN CORPORATE HOUSE, AMBALI BOPAL ROAD,
AHMEDABAD, AHMEDABAD, GUJARAT, 380058

www.opaqueceramics.com

exports@opaqueceramics.com

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