



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
INSTRUMENTATION DEPARTMENT**

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| Issue No. 02 | Rev. No: 00 | Effective Date: 01.11.2019 | WI-17 (SP-8; AM-7) |
| Issued By: M.R | | Approved By: HOD-INSTRUMENTATION | |
| CALIBRATION PROCEDURE OF OFFLINE PARTICLE SIZE ANALYSER | | | |

The Instrument engineer takes action as follows, for calibration:

1.1 System Ready for Measurement

- 1.1.1 Ensure Optical bench, Dispersion unit and Computer Power On 30 Minutes before from Start the Measurement
- 1.1.2 Double clicking on the Mastersizer 2000 Icon from the Computer Desktop. If a User Name dialogue appears, type in your user name and click OK
- 1.1.3 Open a measurement file by selecting File-Open from the menu
- 1.1.4 In the Open Measurement File dialogue, select QAS File Name then click Open. The QAS Measurement file will be opened.

1.2 Calibration of the Instrument with QAS Sample

- 1.2.1 Remove one bottle of the QAS Standard from the consumables pack
- 1.2.2 Open the Scirocco's sample area lid and add the full contents of the QAS Standard bottle to the sample tray .Add the sample between the centre of the tray and sieve, but not too close to the sieve. This prevents it entering the measurement zone before measurement starts.
- 1.2.3 Select Measure-Start SOP from the menu
- 1.2.4 Available SOP's are listed in a dialogue. Select the QAS3002 SOP then click Open. Enter the sample Details in Sample name and click OK.
- 1.2.5 The Measurement Display dialogue Appears
- 1.2.6 The SOP automatically measures an electronic background, aligns the optical system and measures the optical background.
- 1.2.7 After completion of sample analysis system will ask do you want run this SOP again, Click NO.
- 1.2.8 The measurement records are automatically saved to the QAS measurement file.



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1.2.9 Now click on sample name in the Records view and select the Result Analysis (M) tab. The top Part of the report provides some sample details, sample analysis information and important Particle Size Distribution statistics. The Central part of the report provides a graph of the Size Distribution. The lower part is a data table recording the percentage of material at different points in the size distribution

1.2.10 The results shall be compared to Table-1

Particle Size Analyzer Applied Standard: Quality Audit Standards Size: 15-150 μ m

| | Dv10 / μ m | Dv50 / μ m | Dv90 / μ m |
|--------------|----------------|----------------|----------------|
| Lower Limit | 36.631 | 61.360 | 85.515 |
| Target Value | 38.559 | 63.258 | 90.016 |
| Upper Limit | 40.487 | 65.156 | 94.517 |

Table-1

1.2.11 If the results are not with in the limit please do the following actions

- a. Open the Optical bench cover and Clean all the detectors
- b. Clean the Cell window
- c. Clean the Sample tray, sieve and Sample tube.

1.2.12 Measure one more QAS sample. If the problem till persist contact OEM for further assistance.

2.0 CONNECTED DOCUMENT:

F-1/WI-17(SP-8;AM-7) CALIBRATION OF OFFLINE PARTICLE SIZE ANALYSER