

MATROLAB GROUP (PTY) LTD Civil Engineering Laboratory Services

SAMPLE SIZE INFO

| Test Description | Brief Definition | Test Method TMH 1 | Mi | inimum Sample Size | Required Testing Time |
|------------------------------------|--|-------------------------|---|--------------------------------------|-----------------------|
| Asphalt mix design | Determination of the Marshall properties (ie BRD, Rices, Air Voids, Stability, Flow) obtained on compacted asphalt briquettes at a specified grading after addition of different percentages of binder | C1 | Coarse Fine (Note : in addi of the binder an | nd any filler to | 10 working days |
| Marshall Tests | Determination of the Marshall properties (ie BRD, Rices, Air Voids, Stability, Flow), and binder content and grading on premixed asphalt | C2 - C5 C7 | so assa mast. | Hot asphalt (in a hot box) | 3 working days |
| Asphalt binder content and grading | Determination of the bitumen content in premixed asphalt and sieve analysis of the washed aggregate | C7 + B4 | | 3 kg | 3 working days |
| Aggregate grading | Sieve analysis of coarse or fine aggregate | B4 | Coarse Fine | : 10 kg : 3 kg | 3 working days |
| Flakiness Index | Determination of the percentage (by mass) of coarse aggregate that will pass through slots with widths that is half of the sieve openings through which each of the fractions pass | В3 | | 10 - 50 kg (dependant on grading) | 3 working days |
| ACV | Determination of the percentage fines obtained when a certain fraction is subjected to a gradually applied load of 400 kN | B1 | | 25 - 50 kg (dependant on grading) | 3 working days |
| Sand Equivalent | A rapid test to show the presence or absence of detrimental fines or clay-like materials in fine aggregate | B19 | | 3 kg | 3 working days |

Please note that the above table includes the common tests only. For details of other tests please liase with the Laboratory Manager. The required testing time, as indicated, is applicable where the laboratory can commence testing the sample immediately on receipt. Depending on the number of samples being processed by a section in the laboratory, there may be delays.



SAMPLE SIZE INFO

| Review 28/02/2005 | | | | | | | | |
|---|---|-------------------------------|--|---|--|--|--|--|
| Test Description | Determination of sieve analysis to 0.075mm and Atterberg Limits (LL, PI, LS) | Test Method TMH 1 | Minimum Sample Size | Required Testing Time 4 working days | | | | |
| ndicator test (Road) | | | Fine : 2 kg Medium : 5 kg Coarse : 25 kg Very coarse : 50 -100 kg | | | | | |
| Foundation Indicator (incl Hydrometer) | Determination of sieve analysis to 0.075mm and particle size distribution to 0.002mm plus Atterberg Limits (LL, PI, LS) | A1 - A5 (+ ASTM D422) | As above | 5 working days | | | | |
| Mod AASHTO | Determination of the maximum dry density and optimum moisture content | A7 | 50 kg | 2 working days | | | | |
| Mod AASHTO + CBR | Determination of the California Bearing Ratio - load required to penetrate a standard piston into the sample, expressed as a percentage of the California standard values | A7 + A8 | 100 kg | Natural : 6 working days Stabilised : 14 working days | | | | |
| UCS Design | Determination of the Unconfined Compressive Strength after the addition of different percentages of stabiliser | A14 | 200 kg (Note : in addition 10 kg of the stabiliser to be used must be supplied) | Accelerated cured : 6 working days 7 days cured : 10 working days | | | | |
| Stabiliser content (back titration) | Determination of the percentage, by mass, of stabiliser added into natural soil | A15 | Test sample : 2 kg Raw sample : 25 kg / section Stabiliser : 2 kg / section (Note: minimum number of test samples per section is 10) | 4 working days | | | | |
| Concrete mix design (per design) | Determination of the different mass / volume of the different aggregates, cement, water and additives (if any) to be mixed to obtain a specified class of concrete | Fulton | Coarse : 150 kg per ag Fine : 100 kg per ag Cement : 50 kg (Additives as required) | | | | | |
| Theoretical concrete nix design | As above, but excluding the manufacture and testing of concrete cubes | | As above | 4 working days | | | | |
| Concrete cube esting | Determination of the compressive strength of already manufactured concrete cubes | D1 | Minimum number of 3 cubes per date to be tested | Crushing date + 1 working day (Cubes to be received in the laboratory at least 24 hours before crushing) | | | | |