RISHIKESH
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Rishikesh Software

Rishikesh Software is a customized software dedicated to "Rishikesh" Oscillating Disc Rheometer" It has the following major functions.

1. DATA CAPTURE & DISPLAY

Torque signal generated by the Torque Sensor is appropriately modulated, amplified and then the analogue signal is converted into equivalent digital signal through an efficient Data Acquisition Card. The torque signal is normally a sine wave and represents one complete cycle of rotor. Rishikesh-software recognizes the sine wave signal and captures the torque values from various points on the sine wave. It analyses the torque values and subsequently displays the maximum value of torque of each cycle against time on the screen.

2. DISPLAY OF RESULTS

At the end of the test, the Computer calculates the results automatically and displays it. These results can also be printed as "Rishikesh-Rheometric Properties".

3. DATA CHARACTERISTICS

Each test specimen qualifies the following six variables:
a) Specimen Serial No.
b) Date of testing
c) Type of test specimen.
d) Temperature of test
e) Arc of rotor
f) Duration of test.
Based on above six variables, Rishikesh-software commands to open a file Stock & control limits. The computer later on compares & analyses the test data graphically & statistically, based upon these variables.

4. ANALYSIS

Over a period of time as the data-base builds up, Rishikesh - software "Powerful Analytical Software" analyses it and can present summarized or detailed reports.

5. REPORTS

a) Reports : After the completion of test, there is a facility to take out the print report as well as the graph.
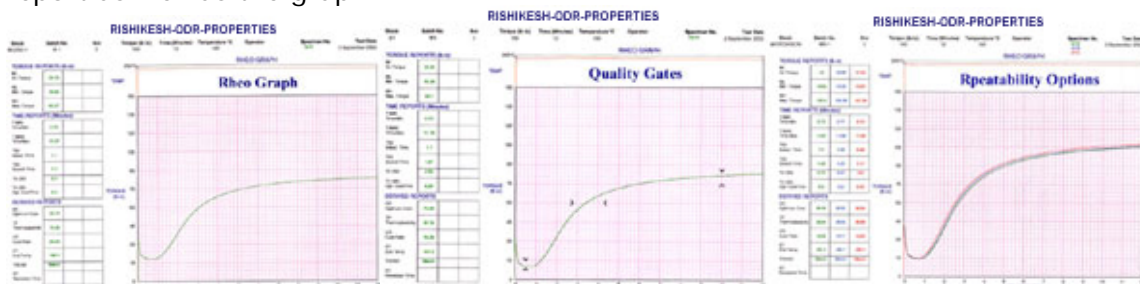
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b) Stock and Control Limits : Rishikesh - Software offers the option of entering control limits e.g. upper limit, lower limit, mean and Standard Deviation related to each parameter monitored during the test. This facility recognizes the "Oscillating Disc Rheometer" as an excellent instrument for comparing each test result against the set limits.

c) Analytical Reports : Rishikesh - software generates the following reports related to Period, Stock type, Temperature and Arc of Rotor.

i) Statistical Analysis : Based upon search criteria, the data retrieved can be viewed or printed under this head. The report can either be detailed or summarized. There is a choice to have a report with or without Graph. The report generated under this head is qualified by the control limits entered in the stock and control limits head. The results of all the specimen are displayed on a single graph for the viewer to appreciate at a glance.

ii) Graphical Analysis : It is a distinctive facility by .which a single parameter from the data retrieved is nicely displayed graphically. The parameter chosen can be any of the following: Initial torque, Minimum torque, Maximum torque, ts2, ts5, tc50 & tc90.

iii) Statistical Quality Control (SQC) : The facility of SQC has three main advantages: Firstly, a summary of test reports as well as Statistical analysis of the test results e.g. No. of samples, the upper value, the lower value, mean, range, standard deviation, variance and coef. Of variation. Secondly, the percentage of test results falling within the mean: 1,2,3, standard deviation can also be known. It helps the Compounder to know about the levels of quality being maintained. Thirdly, the Control limits fed in "Stock Control Limit" can also be revised. For example, the mean of the maximum torque obtained is 80lb in while analyzing the results of 30 consecutive test specimens. Assuming the Standard Deviation to be 5, It is observed that 80% of the test values fall within the standard deviation of +/-1, the Compounder can revise the control limits as mean +/-2 SD i.e. upper limit as 90 and lower limit as 70.

7. CALIBRATION
The Rishikesh - software has been designed in such a manner that a "Standard Torque Device" provided along with the Rheometer helps in its Calibration. It calibrates the Rheometer with respect to angle of Arc and Temperature. During calibration, the Torque values obtained are displayed. The calibration factor, if required, gets automatically incorporated into the system. A print of calibration values can be taken out. Rishikesh - software has the facility of updating on its own the latest calibration.

8. BACKUP & RESTORE
Rishikesh - software has the facility to take the back-up of the data on Zip, which can be restored in case of corruption of data or hardware failure.