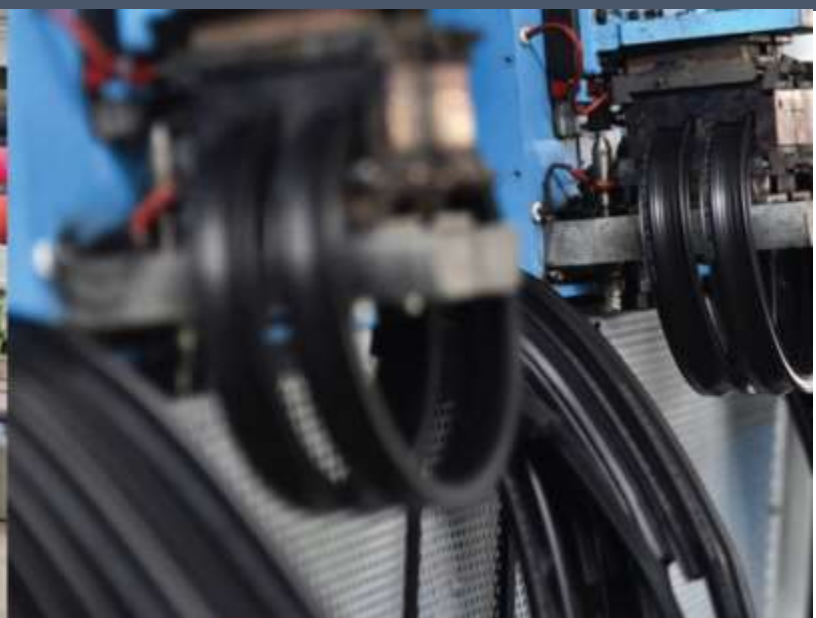


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**Spray Drying Heat Treatment of
Emulsion Polymer**

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Customer :	M/s. Jesons Industries Ltd.
Process :	Spray Drying Heat Treatment of Emulsion Polymer

Test Report No: 160/KRDC/LAB/17 Mum 05/12/2022

Date Sample reception : 01/12/2022
ID : 160/LAB/05

Sample Description:

Sampling : As Requested
Sample Condition : Acceptable
Sampling date : 03/12/2022
Product : Emulsion Polymer
Start Date test : 03/12/2022
End Date test : 03/12/2022

Laboratory Experimental System -



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System Specification -

Drying chamber Installed Power	4.5 KW
Drying chamber Heat Load	250°C maximum
Pneumatic Air Pressure	6 bar
Dosing pump	6-7 rpm

Laboratory's Environmental Conditions –

Temperature (degree C)	29.4°C (±5°C)
Humidity (%)	≤50% RH
Pressure (kN/m2 or kPa)	Not recorded

Note for recommendation: Environmental conditions have a direct impact on test results. Accuracy and consistency of test data are affected by the laboratory conditions

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Procedure of the Experiment -

- The experiment was performed on Emulsion Polymer to speed up the heating rate.
- For this experimental run, the sample was treated in the Spray drying system under different parameters.
- After the heating treatment, the sample was analyzed.

Analytical Results:

Trial 1 –

Initial Wt. – 500ml

Flow Rate – 20ml/min

Heater Temperature (°C)	Chamber Temperature(°C)	Cycle Mode	Dosing Pump (rpm)	Remark
200°C	150°C	Continuous	10	Lumps formation Sample recovered from Chamber walls- 17g

Final dry bottle sample recovered – 4.5g

Final Moisture – 1.8%

Total time taken – 25 mins.

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Images during Trials:



Untreated Sample



Treated Sample

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Moisture Report:

Drying started	
Date :	3-12-2022
Time :	16:49:21
Model :	AGS200
Serial number :	138
Drying parameters	
Product :	0
Drying temperature :	105.0 °C
Drying profile :	standard
Mode :	Short mode
Calculation :	$((mD-m)/mD)*100\%$
Finished :	3 samples
Initial weight :	0.609 g
Final weight :	0.595 g
Drying time :	00:01:40s
Sampling interval :	20 sec
Moisture :	1.8 %
NOTE	Final Moisture Content
The analysis performed by:	
Signature	

Format: F/R&D/01

The value obtained is already corrected for possible recover value stated, if applicable. This document may not be reproduced or disclosed wholly or partly in any part thereof without the written consent of the laboratory management or customer. This document relates only to the specimen samples processed. The processed sample will be kept in this laboratory for 7 days from the date of heat treatment.

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Observations:

The heating behavior of Emulsion Polymer was investigated under the IR heating system. The heating rate was found to be increasing with respect to the increase in time. As per the physical investigation, the Polymer Emulsion was Spray dried without any anti-coating agent. After treatment lumps formation was observed.



Ms. Sayali Asole
(Tested By)