

**PURPOSE**

Traditional Sugar Coating Process is a multistage coating process with too much skill dependency and is often very time-consuming. INSTACOAT™ SFC is the most advanced ready-to-use sugar coating formulation which can be sprayed and well suited for all type of coating equipment (Conventional, Perforated and Continuous).

**OBJECTIVE**

To evaluate and optimize the critical coating process parameters of INSTACOAT™ SFC in an Auto-coater.

**METHOD**

Multivitamin Tablets were used as a substrate for the sugar coating process. A 48 inches Auto-coater equipped with spraytech, 1.5 mm nozzle was used for coating process of the Multivitamin Tablets.

Instacoat™SFC was applied to desired weight gain(Approx. 68%) over the seal coated multivitamin tablets at 25 % solids level. Instacoat Universal coating was applied to 3 % weight gain at 11% solids level. Final polishing was done with Instaglow formulation.

All the critical process parameters (Product Temperature, Spray Rate, Pan RPM, Atomizing Air Pressure etc.) were studied and optimized for the coating process. Coated tablets were evaluated for final appearance of the coated tablets and DT.

**RESULTS**

- The coating process parameters were well optimized in the 48" Autocoater. Multivitamin tablets were successfully coated using Instacoat™SFC and the coated tablets achieved very smooth coating finish in significantly less time as compared to the manual conventional sugar coating. The coating process was completed without any process concerns and nil coating defects. The physical characteristics and disintegration time of the coated tablets were found well within the desired specifications. Instacoat™ SFC coated tablets showed improved coating weight uniformity and excellent smooth glossy finish

Table no.1 Observations of Batches (n=3)

Sr.no.	Process Parameters	Batch 1			Batch 2			Batch 3		
		SFC Coating	Colour coating	Polishing	SFC Coating	Colour coating	Polishing	SFC Coating	Colour coating	Polishing
1	Reconstitution level	25	11	7	25	11	7	26	11	7
2	Product bed Temperature (°C)	39-43	43-44	42-45	39-43	42-45	42-45	37-43	42-45	42-45
3	Pump RPM	18-38	12-18	10-14	17-35	18-23	10-14	18-38	18-23	10-14
4	Atomizing air pressure (kg/cm <sup>2</sup> )	1.6-2.6	2.2-2.4	1.8-2.0	1.6-2.4	2.2-2.4	1.8-2.0	1.6-2.4	2.2-2.4	1.8-2.0
5	Gun to bed distance (cm)	24-26	20-22	22	22-25	20-22	22	22-25	20-22	22
8	Total spraying time(hrs)	16	4.20	0.75	18	4	0.75	13.40	3.40	0.75

**CONCLUSION**

The coating process results demonstrated that Instacoat™SFC is well optimized for a spraying process in an Autocoater. Instacoat™SFC scientific coating process helped to achieve process time savings of approx.36% and also gave a more uniform coating finish. The reproducibility of the coating process was good and demonstrated on three consecutive batches. Instacoat™SFC is the most advanced sugar coating formulation designed to simplify the sugar coating process, improve process efficiency and overall product quality.

**FUNDING / GRANTS / ENCORE / REFERENCE OR OTHER USE**

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IDEAL CURES

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