

Coating Parameters – HPMC (276 and 277 series) Based White and Pigmented Formulations

Opadry® TF, Titanium Dioxide Free Film Coatings are made specifically for pharmaceutical products. Elimination of titanium dioxide provides manufacturers with an alternative coating finish that satisfies aesthetic appeal while addressing current market concerns. Opadry® TF, TiO2 free film coating options are available as clear, white, or pigmented systems. The coating parameters listed in the table below are based on Colorcon® data for HPMC based white and pigmented formulations. Individual product and machine functions should be considered, and conditions altered as required.

| Pan Type | | Fully Perforated Side Vented Coating Pan | | | |
|--|-----------|--|--------------------------|---------------------------|----------------|
| Pan Diameter | cm | 38.1 | 60.96 | 122 | 152.4 |
| | in | 15 | 24 | 48 | 60 |
| Solution Preparation | | | | | |
| Solvent | | Purified Water | Purified Water | Purified Water | Purified Water |
| Solids Content | % w/w | 18-20 | 18-20 | 18-20 | 18-20 |
| Run Objectives | | | | | |
| Theoretical Weight Gain | % w/w | 3-5 | 3-5 | 3-5 | 3-5 |
| Tablet Charge | kg | 1.5-3 | 12-15 | 120-160 | 320-350 |
| Gun Configuration | | | | | |
| Example Spray Gun | Type | Schlick 931/7-1 S22 | Spraying Systems 1/8 VAU | Schlick 931/7-1 S35 (ABC) | Manesty |
| Number of Guns | guns | 1 | 1-2 | 3-4 | 5-6 |
| Nozzle Diameter | mm | 1.2 | 1.2 | 1.2 | 1.2 |
| | in | 0.05 | 0.05 | 0.05 | 0.05 |
| Gun to Bed Distance | cm | 10 | 17 | 25 | 25 |
| | in | 4 | 7 | 10 | 10 |
| Gun to Gun Distance | cm | N/A | 10 | 15 | 15 |
| | in | N/A | 4 | 6 | 6 |
| Atomizing Air Pressure | bar | 1.4 | 1.7 | 2.5 | 2.5 |
| | psi | 20 | 25 | 35 | 35 |
| Pattern Air Pressure | bar | 1.4 | 1.7 | 2.5 | 2.5 |
| | psi | 20 | 25 | 35 | 35 |
| Process Parameters | | | | | |
| Drying Air Volume | cu.m/hr | 250-290 | 425-470 | 2300-3060 | 5440-6630 |
| | cu.ft/min | 145-175 | 250-275 | 1350-1800 | 3200-3900 |
| Pan Speed* | rpm* | 18 | 14 | 8 | 6 |
| Pre-warm tablet Bed | °C | 45-50 | 45-50 | 45-50 | 45-50 |
| | °F | 113-122 | 113-122 | 113-122 | 113-122 |
| Inlet Air Temperature | °C | 60 | 65 | 65 | 65 |
| | °F | 140 | 149 | 149 | 149 |
| Tablet Bed Temperature | °C | 45-48 | 45-48 | 45-48 | 45-48 |
| | °F | 113-118 | 113-118 | 113-118 | 113-118 |
| Spray Rate* | g/min | 15-20 | 40-60 | 260-430 | 650-750 |
| <p>*Pan speed should be set so that even mixing of the bed occurs. This will be influenced by tablet size, shape, friability, and baffle type in the pan. *Spray rate numbers are estimated.</p> | | | | | |

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