

## Coating Parameters – Pigmented PVA-Based Formulations

Nutrafinish®, dietary supplement coatings are one-step film coating products available in clear, white and pigmented formulations. Developed specifically for food supplements, they provide excellent film forming capabilities including logo definition, high tensile strength and excellent adhesion properties.

The coating parameters listed in the table below are based on Colorcon data for PVA-based pigmented formulations. Individual product and machine functions should be considered and conditions altered as required.

|   |           | Fully Perforated Side Vented Coating Pan |                          |                           |                | Conventional Pan    |
|---|-----------|--|--------------------------|---------------------------|----------------|---------------------|
| Pan Diameter  | cm        | 38.1                                     | 60.96                    | 122                       | 152.4          | 40.64               |
|   | in        | 15                                       | 24                       | 48                        | 60             | 16                  |
| <b>Solution Preparation</b>   |           |  |                          |                           |                |                     |
| Solvent   |           | Purified Water                           | Purified Water           | Purified Water            | Purified Water | Purified Water      |
| Solids Content  | % w/w     | 20                                       | 20                       | 20                        | 20             | 20                  |
| <b>Run Objectives</b>   |           |  |                          |                           |                |                     |
| Theoretical Weight Gain   | % w/w     | 3  | 3                        | 3                         | 3              | 3                   |
| Tablet Charge†  | kg†       | 1.5 - 3.0                                | 12 - 15                  | 120 - 160                 | 320 - 350      | 3                   |
| <b>Gun Configuration</b>  |           |  |                          |                           |                |                     |
| Example Spray Gun   | type      | Schlick 931/7-1 S22                      | Spraying Systems 1/8 VAU | Schlick 931/7-1 S35 (ABC) | Manesty        | Schlick 970/7-1 S75 |
| Number of Guns  | guns      | 1  | 1 - 2                    | 3 - 4                     | 5 - 6          | 1                   |
| Nozzle Diameter   | mm        | 1.2                                      | 1.2                      | 1.2                       | 1.2            | 1.2                 |
|   | in        | 0.05                                     | 0.05                     | 0.05                      | 0.05           | 0.05                |
| Gun to Bed Distance   | cm        | 10                                       | 17                       | 25                        | 25             | 15                  |
|   | in        | 4  | 7                        | 10                        | 10             | 6                   |
| Gun to Gun Distance   | cm        | N/A                                      | 10                       | 15                        | 15             | N/A                 |
|   | in        | N/A                                      | 4                        | 6                         | 6              | N/A                 |
| Atomizing Air Pressure  | bar       | 1.4                                      | 1.7                      | 2.5                       | 2.5            | 1.4                 |
|   | psi       | 20                                       | 25                       | 36                        | 36             | 20                  |
| Pattern Air Pressure  | bar       | 1.4                                      | 1.7                      | 2.5                       | 2.5            | 1.4                 |
|   | psi       | 20                                       | 25                       | 36                        | 36             | 20                  |
| <b>Process Parameters</b>   |           |  |                          |                           |                |                     |
| Drying Air Volume   | cu.m/hr   | 250 - 290                                | 424 - 470                | 2300 - 3060               | 5440 - 6630    | 140                 |
|   | cu.ft/min | 147 - 175                                | 250 - 275                | 1350 - 1800               | 3200 - 3900    | 80                  |
| Pan Speed*  | rpm*      | 18                                       | 14                       | 8                         | 6              | 20                  |
| Pre-warm Tablet Bed   | °C        | 45 - 50                                  | 45 - 50                  | 45 - 50                   | 45 - 50        | 45 - 50             |
|   | °F        | 113 - 122                                | 113 - 122                | 113 - 122                 | 113 - 122      | 113 - 122           |
| Inlet Air Temperature   | °C        | 60                                       | 65                       | 65                        | 65             | 65                  |
|   | °F        | 140                                      | 149                      | 149                       | 149            | 149                 |
| Tablet Bed Temperature  | °C        | 45 - 48                                  | 45 - 48                  | 45 - 48                   | 45 - 48        | 45 - 48             |
|   | °F        | 113 - 118                                | 113 - 118                | 113 - 118                 | 113 - 118      | 113 - 118           |
| Spray Rate Approximate Coating Times  | g/min     | 12 - 20                                  | 35 - 50                  | 250 - 350                 | 480 - 680      | 12                  |
|   | min       | 18 - 23                                  | 43 - 53                  | 55 - 85                   | 90 - 100       | 38                  |
| *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. |           |  |                          |                           |                |                     |
| †Tablet charge is dependent on tablet size and shape.   |           |  |                          |                           |                |                     |

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