

## FULLY AUTOMATIC / SEMI AUTOMATIC DIP SPIN MACHINES



### Anti-corrosive and Performance Smart Coating Technologies

For Surface Finishing Industry

www.bharatcoat.com

# **BHARAT COAT Dip Spin Machine Specifications:**

| Model Name                             | BCDS 200              | BCDS 250              | BCDST 400   | BCST 500   |
|--|-----------------------|-----------------------|---|--|
| Overall size L X W XH                  | 1000x1000x1800        | 1500x1500x1890        | 2800x3500x2300                                    | 2900x2900x3200   |
| Loading height                         | 800 mm                | 800 mm                | 1300 mm   | 1300 mm  |
| Parts loading                          | Manual                | Manual                | Through bucket<br>elevator                        | Auto loader  |
| Parts unloading                        | Manual                | Manual                | Through tilting<br>basket on flat<br>bed conveyor | Through tilting<br>basket on flat<br>bed conveyor                      |
| Basket size                            | 200 mm                | 250 mm                | 400 mm  | 500 mm   |
| Basket tilting                         | NA                    | NA                    | 45 Deg  | 75 Deg   |
| Basket load<br>carrying capacity       | 5 kg                  | 5 to 8 kg             | 35 kg   | 50 to 60 kg  |
| Spin speed                             | 200 - 400 RPM         | 200 - 500 RPM         | 200 - 500 RPM                                     | 200 - 500 RPM  |
| Paint barrel                           | SS 304 leakproof      | SS 304 leakproof      | SS 304 leakproof<br>with stirrer                  | SS 304 leakproof<br>with stirrer, level<br>indicator & temp.<br>sensor |
| Paint barrel with water cooling jacket | NA                    | NA                    | Could be<br>provided                              | Could be<br>provided   |
| Paint lifter movement                  | Pneumatic<br>Cylinder | Pneumatic<br>Cylinder | Hydraulic<br>Cylinder                             | Hydraulic<br>Cylinder  |
| Machine operation                      | Semi Automatic        | Semi Automatic        | Fully Automatic                                   | Fully Automatic  |
| Operating panel                        | PLC with HMI          | PLC with HMI          | PLC with HMI                                      | PLC with HMI   |
| Machine power<br>requirement           | 2 HP                  | 3 HP                  | 9 HP  | 14 HP  |
| Machine weight approx.                 | 250 kg                | 350 kg                | 2250 kg   | 6500 kg  |
| Machine enclosure                      | NA                    | NA                    | NA  | Provided for dust free atmosphere                                      |

BHARAT

#### **BHARAT COAT PRODUCTS**

Shed No. 21, Fasteners Park, Village - Rupal, Taluka - Balva, Ahmedabad - 382220. (Gujarat, India)

## BHARAT COAT SOLVENT BASE COATING SERIES



# **BKOT 100**

- Our Solvent Based-Base Coat comprises of Zinc and Aluminium Flakes to form a thin anti corrosive film. The coating is a single pack system. The coating is applied by dip spin or spray method.

It is a cost effective and superior corrosion protection system with resistance to Auto Fluids & chemicals providing SST of 1200Hrs+.

#### **Characteristics:**

- Colour : Silver Grey
- Application viscosity : 40-45 sec. on Zhan cup 2 for Dip-spin & 25-30 for Spray application
- Thickness : 8-12 µ
- Application Method : Dip/Spin, Spray
- Pre treatment : Degreasing & Shot blasting
- Thinner : BKOT 130
- Sacrificial behaviour : Yes
- Curing : 30min. at 220 °
- Cof : 0.12-0.18 µtot
- Chrome content : Nil

### After application on substrate:

| No.  | Name of Test                | Procedure | Results                   | Comment  |
|------|-----------------------------|-----------|---------------------------|--|
| PHYS | ICAL TESTS                  |           |                           |  |
| 01   | Coating Layer Thickness     |           | 8-12 Micron               | By Thickness Gauge                                       |
| 02   | Adhesion                    | ISO-10683 | Pass                      | 7Nm/ 12mm2   |
| 03   | Hardness of Film            | By pencil | >5 H                      | $() \rightarrow \times \times \rightarrow \times \times$ |
| CHEM | IICAL TESTS                 |           |                           |  |
| 01   | MEK                         | 20 Rub    | Pass                      |  |
| 02   | Automotive Oil & Fuel Tests | Dip       | Pass                      |  |
| PERF | ORMANCE TESTS               |           |                           |  |
| 01   | SST                         | ASTM B117 | Pass 1200 - 1500<br>Hours | SGS Test Report  |
| 02   | COF Test                    | ISO16047  | 0.15 +/-0.03 tot          |  |
| 03   | 5 times Torquing & SST      | ISO16047  | Pass 700 Hours            | Pass after 5 times torquing                              |





## BHARAT COAT SOLVENT BASE COATING SERIES



# **BKOT 120**

— BKOT 120 has Zinc and Nano Carbon Crystals to form 60-80 microns thickness for threaded hardware. The coating is applied by dip spin or spray method. This is an ideal alternative for HDG and mechanical galvanizing. No gauge fitment issues or re tapping required for threaded hardware.

Duplex coating system which comprises of 2 coats of BKOT 120 base plus 1 sealer top coat.

#### **Characteristics:**

- Colour : Zinc Grey
- Application viscosity : 30-35 sec. on Zhan cup 2 for Dip-spin & 25-30 for Spray application
- Thickness : 50-60 μ
- Application Method : Dip/Spin, Spray
- Thinner : BKOT 130
- Curing : 30min. at 220 °
- Chrome content : Nil

### After application on substrate:

| No.  | Name of Test               | Procedure   | Results                   | Comment                          |
|------|----------------------------|---|---------------------------|----------------------------------|
| PHYS | ICAL TESTS                 |   |                           |                                  |
| 01   | Coating Layer Thickness    | $( \land \land$ | 50-60 Micron              | By Thickness Gauge               |
| 02   | Adhesion                   | ISO-10683   | Pass                      | 7Nm/ 12mm2                       |
| 03   | Hardness of Film           | Pencil Test   | >4 H                      |                                  |
| CHEN | ICAL TESTS                 |   |                           |                                  |
| 01   | MEK                        | 20 Rub  | Pass                      |                                  |
| 02   | Copper Sulphate by dipping | 4 times   | Pass                      | $X \leftarrow X \rightarrow X$   |
| PERF | ORMANCE TESTS              |   |                           |                                  |
| 01   | SST                        | ASTM B117   | Pass 1200 - 1500<br>Hours | Alternate to HDG                 |
| 02   | Visible White Rust         |   | 100-300 Hours             | No white rust<br>above 300 Hours |





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## BHARAT COAT WATER BASE COATING SERIES



## BKOT 900

- Water reducible, nano zinc aluminium flake, anti-corrosive, chrome VI free coating. It can be applied via Dip Spin or Spray Application method.

The coating comes in Part A, B and C as a 3-pack system. BKOT 900 is a unique coating system with highest corrosion and mechanical properties even at lowest coating thickness. It is a cost effective and superior corrosion protection system with resistance to Auto Fluids & chemicals providing SST of 1000Hrs.

#### **Characteristics:**

- Colour : Silver
- Application viscosity : 80-100 sec on Zhan cup 2
- Thickness : 8-12 µ
- Pre treatment : Degreasing & Shot blasting
- Application Method : Dip/Spin, Spray
- Curing : 30min. at 330 °C
- Cof : 0.12-0.18 µtot

### After application on substrate:

| No.  | Name of Test                | Procedure          | Results          | Comment   |
|------|-----------------------------|--------------------|------------------|---|
| PHYS | ICAL TESTS                  |                    |                  |   |
| 01   | Coating Layer Thickness     |                    | 8-12 Micron      | By Thickness Gauge  |
| 02   | Adhesion                    | ISO-10683          | Pass             | 7Nm/ 12mm2  |
| 03   | Hardness of Film            | By pencil          | >4 H             |   |
| CHEM | IICAL TESTS                 |                    |                  |   |
| 01   | MEK                         | 20 Rub             | Pass             |   |
| 02   | Automotive Oil & Fuel Tests | Dip                | Pass             | $X \leftarrow X \land X$  |
| PERF | ORMANCE TESTS               |                    |                  |   |
| 01   | SST                         | ASTM B117          | Pass 1000 Hours  |   |
| 02   | COF Test                    | ISO16047           | 0.15 +/-0.03 tot |   |
| 03   | Heat Resistance             | 300°c for 96 Hours | 500 Hours SST    | $() \rightarrow X \rightarrow $ |

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## BHARAT COAT WATER BASE TOP COATING SERIES



## BKOT TS

- Water reducible thermosetting cross-linked alloy system in combination with PTFE and other organic binder & Zinc Aluminium flakes. BKOT TS can be applied on base coat like BKOT 900, Zinc plating and other zinc-based surfaces. The coating is applied by Dip sin or Spray followed by curing into oven for 200-220 C°-25 minutes.

Its unique coating system provides highest anti corrosion and mechanical properties. Various CoF value can be provided in this sealer top coat.

#### **Characteristics:**

- Colour : Silver Grey
- Application viscosity : 25-30 sec on Zhan cup 2 for Dip-Spin & 18-20 for spray application.
- Thickness : 5-8 μ
- Application Method : Dip/Spin, Spray
- $\bullet$  Curing : 30min. at 200-220 C  $^{\circ}$
- Cof : 0.12-0.18 µtot

#### **RECOMMENDED BASE COAT:**

Acid Zinc Plating | Alkaline Zinc Plating | BKOT 100 | BKOT 900

### After application on substrate:

| No.  | Name of Test                | Procedure   | Results          | Comment                    |
|------|-----------------------------|-------------|------------------|----------------------------|
| PHYS |                             |             |                  |                            |
| 01   | Coating Layer Thickness     |             | 4-6 Micron       | By Thickness Gauge         |
| 02   | Adhesion                    | ISO-10683   | Pass             | 7Nm/ 12mm2                 |
| 03   | Hardness of Film            | Pencil Test | >4 H             |                            |
| CHEN | ICAL TESTS                  |             |                  |                            |
| 01   | Automotive Oil & Fuel Tests | Dip         | Pass             |                            |
| 02   | Acid test- 2PH              | Dip         | Pass (30 Sec.)   |                            |
| PERF | ORMANCE TESTS               |             |                  |                            |
| 01   | SST                         | ASTM B117   | 500 Hours        | Additional to<br>Base Coat |
| 02   | COF Test                    | ISO16047    | 0.15 +/-0.03 tot | Others on request          |





## BHARAT COAT WATER BASE TOP COATING SERIES



# ВКОТ ТВК

- Water reducible hydrophobic topcoat sealer for base coats like BKOT 900, Zinc plating and other zincbased surfaces. The coating is applied by Dip spin or Spray followed by curing into oven for 200-220 C° -25 minutes.

Its unique coating system provides highest anti corrosion and mechanical properties. Various CoF values can be provided in this sealer topcoat.

#### **Characteristics:**

- Colour : Black-Semi Glossy
- Application viscosity : 20-30 sec. on Zhan cup 2 for Dip-Spin & 20-25 for Spray application.
- Thickness : 5-8 μ
- Application Method : Dip/Spin, Spray
- Curing : 30min. at 200-220 C°
- Cof : 0.12-0.18 µtot
- UV Resistance

#### **RECOMMENDED BASE COAT:**

Acid Zinc Plating | Alkaline Zinc Plating | BKOT 100 | BKOT 900

### After application on substrate:

| No.  | Name of Test                | Procedure   | Results          | Comment                    |
|------|-----------------------------|-------------|------------------|----------------------------|
| PHYS |                             |             |                  |                            |
| 01   | Coating Layer Thickness     |             | 4-6 Micron       | By Thickness Gauge         |
| 02   | Adhesion                    | ISO-10683   | Pass             | 7Nm/ 12mm2                 |
| 03   | Hardness of Film            | Pencil Test | >4 H             |                            |
| CHEN | ICAL TESTS                  |             |                  |                            |
| 01   | Automotive Oil & Fuel Tests | Dip         | Pass             |                            |
| 02   | Acid test- 2PH              | Dip         | Pass (30 Sec.)   |                            |
| PERF | ORMANCE TESTS               |             |                  |                            |
| 01   | SST                         | ASTM B117   | 500 Hours        | Additional to<br>Base Coat |
| 02   | COF Test                    | ISO16047    | 0.15 +/-0.03 tot | Others on request          |





## BHARAT COAT WATER BASE COATING SERIES



PACKAGING

# ВКОТ ТС

— Water reducible-transparent topcoat sealer for base coats like BKOT 900, Zinc plating and other zincbased surfaces. This coating has excellent coverage and thus provides excellent sealant capabilities for Base coats. It passes various chemical and oil test required for automotive fasteners.

The coating can be applied by dip sin or spray method followed by curing for 150 C<sup>°</sup> 25-30 mins. Various Cof values are available in this sealer topcoat.

BOLT

#### **Characteristics:**

- Colour : Clear
- Application viscosity : 20-30 Zhan cup 2
- Thickness : 2-3 μ
- Application Method : Dip/Spin, Spray
- Curing : 30min. at 150 °C
- Cof : Can be customised

#### **RECOMMENDED BASE COAT:**

Acid Zinc Plating | Alkaline Zinc Plating | BKOT 100 | BKOT 900 | BKOT 120

# OTHER ORGANIC TOP COATS



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