Capabilities of ARCEO Engineering’s coating lines

Organic Coating and PVD

Modification date: 23/09/2020

Version 26

Page 1 of 4

Company information:

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Accepted substrates & Pretreatments:

<table>
<thead>
<tr>
<th>Substrate/Pretreatment</th>
<th>None</th>
<th>Oil</th>
<th>Cr+3</th>
<th>Cr+6</th>
<th>E-passivation</th>
<th>Easy film</th>
<th>Organic coating</th>
<th>Other accepted surface conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold rolled steel</td>
<td>NOK3</td>
<td>OK4</td>
<td>NOK</td>
<td>OK3</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>/</td>
</tr>
<tr>
<td>HDG steel</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>/</td>
</tr>
<tr>
<td>Electro-galvanized</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>Phosphated</td>
</tr>
<tr>
<td>Aluzinc</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>/</td>
</tr>
<tr>
<td>Alusi</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>/</td>
</tr>
<tr>
<td>Stainless steel</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>Any surface finish (2B, 2R, Scrotch – Brite, “Corked”)</td>
</tr>
<tr>
<td>Aluminized steel type 2</td>
<td>NOK</td>
<td>NOK</td>
<td>NOK</td>
<td>NOK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>/</td>
</tr>
<tr>
<td>Aluminium</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>Anodized</td>
</tr>
<tr>
<td>Zinc</td>
<td>OK</td>
<td>OK4</td>
<td>NOK</td>
<td>OK</td>
<td>NOK</td>
<td>OK</td>
<td>OK</td>
<td>Phosphated</td>
</tr>
</tbody>
</table>

1) Hot Deep Galvanized.
2) On derogation if the coil is properly wrapped, without any red rust.
3) Electrolytic Chromium Coated Steel.
4) Max. Oil quantity = 0.5 gr/m² per side.

ARCEO Engineering can coat other substrate materials and do other pretreatments upon request.

Substrate specs (dimensional and weight):

- Organic coating (OC) line
Steel, Stainless steel, Zinc substrates thickness: (0,15 – 1,5)mm.
Steel, Stainless steel, Zinc substrates width: (700 – 1500)mm.
Maximal OC section: 1.950 mm² > (1,3mm*1500mm; 1,4mm*1390mm; 1,5mm*1300mm).
Aluminium thickness: (0,5 – 1,5)mm.
Aluminium width: (700 – 1500)mm.

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Author: A. Zubiaur
Approver: H. Cornil
• PVD line
Steel, Stainless steel, Zinc substrates thickness: *(0,15 – 1,2)mm.*
Steel, Stainless steel, Zinc substrates width: *(700 – 1500)mm.*
Maximal PVD section: 1. 050 mm² > (1400mm*0,75mm; 1500mm*0,70mm).
Aluminium thickness: *(0,5 – 1,2)mm.*
Aluminium width: *(700 – 1500)mm.*

Graphical synthesis:

Coil specs:

<table>
<thead>
<tr>
<th>Coil diameter</th>
<th>Coil weight</th>
<th>Minimal coil length</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External diameter</strong></td>
<td><strong>Entrance:</strong> Min. 2.000Kg (for Al 700Kg)</td>
<td><strong>400 m at the entrance</strong></td>
</tr>
<tr>
<td><strong>Internal diameter</strong></td>
<td><strong>Max. 12.500Kg (for Al 6.170Kg)</strong></td>
<td></td>
</tr>
<tr>
<td>Entrance: Max. 1.590mm</td>
<td>Exit: Max. 1.450mm</td>
<td></td>
</tr>
<tr>
<td>Entrance: (508 or 610)mm</td>
<td>Exit: (508 or 610)mm</td>
<td></td>
</tr>
</tbody>
</table>

Up to 1.640mm on request.
Already-painted substrates (repainting):
“Repaintings” are accepted on derogation, following these requirements:
- No durability guarantee on the repainted products.
- No color guarantee on the backing.
- Description of the previous paint (type + thickness of each layer on both sides)
- Derogation accepted by Arceo Engineering’s Quality department on the basis of the information hereabove.

Appearance, guarantee & set-up:
- Appearance guarantee only on A-side
- Appearance ability on the B-side:
  - **Steel, stainless steel, Zinc substrate:**
    - Good B-side appearance for thickness > 0,4mm.
    - Good B-side appearance for 0,3mm < thickness < 0,4mm only for Mat finish.
    - Aesthetic coating not accepted for thickness < 0,3mm.
  - **Aluminum substrate:**
    - Good B-side appearance for thickness > 1,1mm.
    - Good B-side appearance for 0,85mm < thickness < 1,1mm only with Mat finish.
    - Aesthetic coating not accepted for thickness < 0,85mm.
- Beginning and end of each daughter coil are not coated due to AREN process without any possibility to remove it. Up to maximum 10m at the beginning and up to maximum 10m at the end could be uncoated as a standard. No claim will be accepted for these parts.
- **OC campaign = one type of substrate + one width + one thickness + one paint complex. Set-up of OC campaign need up to maximum 60 m of coil extra length (150m extra length if PVD is concerned). This extra length is mandatory, and no claim will be accepted for this part.
- Within coated coils (except beginning / end and set-up) up to 2% in length could have defects as a standard. No claim will be accepted for these 2% in length in an order.

NB: AREN always do his best to produce full quality. The guarantee hereabove has to be understood as minimum guarantee yield.

Line description:

<table>
<thead>
<tr>
<th>Uncoilers</th>
<th>Peelable film</th>
<th>Inspection</th>
</tr>
</thead>
</table>
Deliveries:
In case of no particular agreement, the customer is responsible for taking care of his substrate delivery to ARCEO Engineering’s facilities, following these instructions:

- Delivery address: Rue Sompré 3, B-4400 Ivoz-Ramet (BE), Gate 37 – Sector 9004.
- Reception hours: From Monday through Friday (7h00 to 14h30).
- Vehicle: Truck with roof opening (side opening is allowed if coils are on pallets, smaller than 5tons each and placed in the truck side on the “eye to the side”.
- It is the customer’s responsibility that the transporter weighs every truck before and after substrate unloading. If not, ARCEO Engineering reserves the right to refuse unloading it.

Tolling manufacturing agreement:

- The to be coated material supplied by the customer is supposed to be of certified quality before surface treatment at ARCEO Engineering. Subsequently, ARCEO Engineering will handle the supplied material without previous quality inspection and cannot be held responsible for any defect regarding the surface quality of the substrate even if the defects remain apparent after the coating process.
- In no case ARCEO Engineering will coat either a corroded or rusty substrate.
- The combination of substrate material and pretreatment specified on the above “Accepted substrates & Pretreatments” section could affect the corrosion resistance guarantees that could be given by ARCEO Engineering.
- If the customer’s substrate has intrinsic defects not communicated to ARCEO Engineering that could damage either the continuity of ARCEO Engineering’s production process or even its production tool, ARCEO Engineering will then reserve the right to stop the ongoing production at any moment and charge the repair costs to the customer if they are damaged.

Packaging:
Various types of packaging are available upon request. For more details about our packaging offer and for any enquiry regarding deliveries, please contact the delivery office on the contact details provided above.

For more details about ARCEO Engineering, please visit our website: www.arceo-eng.com