Shotblasting of aluminum profiles previous to anodizing

Cym Materiales SA has developed a line of equipment for continuous shotblasting of aluminum profiles previous to the anodizing process.

Shotblasting is a technique of superficial treatment by impact that can achieve an excellent degree of cleaning and simultaneously a correct surface finishing.

The impulsion of the abrasive is done by means of centrifugal turbines, a technique that is the most economic method among the current techniques of surface preparation that does not pollute the environment.

The functioning of the shotblasting turbines is similar to a centrifugal pump. The shotblasting machines for aluminum profiles use multiple turbines positioned in a way that the abrasive reaches all surfaces to be shotblasted homogenously.
Advantages of the use of the shotblasting process previous to anodizing

- Fast turnover of the initial investment (between 1 and 3 years)
- Recovery of profiles that are out of standard
  - Recovery of second selection materials.
  - Homogenization of surfaces.
  - Elimination of superficial stripes because of a failure of the extrusion mold or defects caused during the handling of the profiles.
  - Elimination of superficial stains.
- Low operative cost
  - 1.5 Kilos of consumption of stainless shot per ton of anodized profile.
  - Depending on the temperature of the bath and the level of concentration of caustic soda used in the process, the time of the alkaline bath can be reduced to 85%.
  - Less chemical material used (caustic soda and sulfuric acid).
  - Less manpower.
  - Higher lifetime of extrusion mold.
  - The equipment is easy to operate and does not require specialized personnel.
- Ecological Process
  - Decrease of cost of effluents treatment by using less chemical products.
  - Decrease of risk to the personnel because of the handling of less chemical materials dangerous to health.
  - Decrease of damage in facilities or buildings due to vapors produced during the chemical scaling.
- It does not cause structural or corateral damage on the physical structure.
- Possibility of controlling the final roughness of the profile according to the results wished.
General Characteristics of the shotblasting equipment for aluminum profiles.

- Proper distribution of the turbines achieving an excellent shotblasting coverage.
- Possibility of decreasing or increasing the speed of impact of the abrasive in a way that allows to adjust conveniently the roughness obtained in the process.
- Automatic opening and closing of the shot valves to avoid the unnecessary wear of the equipment.
- Intermediate cyclone to perform a correct separation of abrasive/dust avoiding that good abrasive is withdrawn from the equipment unnecessarily.
- Internal covering of working chamber made of cast material of high resistance to wear by abrasion.
- Roller conveyor that allows to process several profiles simultaneously.
- Autoloader of shot to keep the mixture of shot in the system constant.
- Use of Vulkan-Inox GmbH stainless steel shot for not contaminating the profiles with rests of carbon, avoiding a future oxidation.
- Automatic process of shotblasting does not require skilled manpower.
- The dimensions for maximum passage of parts and production speed can be adapted to the requirement of the customer.
- Blast cleaning is a process of non-polluting mechanical scaling therefore it is not necessary to use equipment to regenerate additional waste like effluent treatment plants.

<table>
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<th>Model</th>
<th>Turbines</th>
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<td>Quantity</td>
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<tr>
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