STAMFORD | AvK ™

POWERING TOMORROW, TOGETHER

Application Guidance Notes: Technical Information from STAMFORD | AvK

AGN029 – Paint Finishing

INTRODUCTION

STAMFORD | AvK manufactures alternators to a design that is suitable for many environmental conditions, from clean, heated, indoor locations to open deck installations in offshore applications. Any unprotected steel used in the construction of an alternator would be subiect to corrosion. STAMFORD | AvK protect all enclosure parts of the alternator that would be subject to corrosion by galvanising, powder coating or painting. Galvanised and powder coated enclosure parts are prefabricated for STAMFORD | AvK. Paint finishing is carried out during the manufacturing process.

COMPLIANCE TO CODES AND STANDARDS

The paints, materials and the processes used in application, comply, as appropriate, to:

ISO 1514:2016 – Paints and Varnishes

BS3900 – Methods of Test for Paints

Part E3 – Impact (Falling Weight|) Resistance

Part E6 – Cross-cut Test

American Society for Testing and Materials (ASTM)

All approved paints are considered to be lead (Pb) free and chromium (Cr) free, meaning neither lead nor chromium shall exceed 0.06% by weight in the total non-volatile content of paint.

PROCESSES

To simplify methods used in the paint finishing processes, the alternator is separated into three main enclosure parts:

- Sheet Metal
  - Terminal Box
  - Louvers
- Fabrication
  - Frame
- Castings
  - NDE (Non Drive End) Brackets
  - DE (Drive End) Bracket
  - Adaptors

Paint Process

Pre-treatment.

In this first step, the enclosure parts are subject to shot blasting, sand blasting and a 7 tank process before primer application. All parts are treated to ensure compliance to cross cut adhesion in accordance with the qualifying standards.

Preparation.

Preparation is the second part of the process. All matter that could be detrimental to a surface treatment (rust, dirt, dust, grease, etc.) is removed thoroughly and completely, before starting the painting works.

Top Coat.

The third element of the process is called Top Coat. A top coat finish is applied to meet customer requirements.

STAMFORD Alternators

	Sheet Metal	Fabrication	Castings
PRE-TREATMENT	Zinc Tec or Powder Coat	Shot Blast + Primer RAL 7030 (Minimum value of 40 Microns)	Primer RAL 7030 (Minimum value of 40 Microns)
Preparation	Degrease		
Top Coat	- Wet Spray, Water base primer - Black Primer (RAL 9011) - Grey Primer (RAL 7030)		

The standard top coat colour is Grey primer (RAL 7030). This top coat has a dry film thickness of 80 to 100 microns. Many alternators are supplied with this top coat paint finish.

An additional top coat finish may be requested and this will vary, subject to customer requirements. The colour specified by the customer will have a RAL code. This RAL code paint is subject to compliance to the appropriate codes and standards, already referred to in this AGN.

AvK Alternators

The paint process for AvK alternators is specific to the end user requirements. Typically, there is a Standard Application process and an Offshore Application process where more layers of paint are applied for off-shore alternators compared to standard application.

Standard Application

	Sheet Metal	Fabrication	Castings
PRETREATMENT	Zinc Tec or Powder Coat	Shot Blast + Primer RAL 7002 (Dry film thickness min. 80 to 100 Microns)	RAL 7002 (Dry film thickness min. 80 to 100 Microns)
Preparation	Degrease		
Top Coat	- 1 component synthetic resin - Green RAL 6011 Dry film thickness : min. 80 to 100 Microns		

Offshore Application

	Sheet Metal	Fabrication	Castings
PRETREATMENT	Zinc Tec or Powder Coat	Shot Blast + 2 component low-temperature primer (Dry film thickness: 75 Microns)	2 component low-temperature primer (Dry film thickness: 75 Microns)
Preparation	Degrease		
Intermediate Coat 1 &2	- 2 component low-temperature epoxy with micaceous iron - Colour : no prescriptions (Dry film thickness: 125 Microns)		
Top Coat	- 2 component Epoxy top coat - Colour: to customer specification (Dry film thickness: 125 Microns)		

An additional top coat finish may be requested and this will vary, subject to customer requirements. The colour specified by the customer will have a RAL code. This RAL code paint is subject to compliance to the appropriate standards.

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