Siemens Gamesa - SG Training Web

SE-P-17000

Blade D: Advanced repair of complicated blade structural damage

Purpose

The overall purpose of the course is to enable the participant to expand their knowledge and skills to include the workflow scenario III, IV, V, VI and VII according to Work Instruction D1464420 Introduction to blade structural repair.

Who should attend?

This course is intended for Siemens Gamesa Renewable Energy's and approved subcontractor's employees whose duties include advanced repair of complicated blade structural damages on SGRE blades.

Objectives

Upon completion of the course the participants are able to:
- Demonstrate execution of repairs according to relevant Work Instructions (WI) and Checklists (CH) which are mentioned in workflow scenarios III, IV, V, VI and VII in Work Instruction D1464420 Introduction to blade structural repair.
- Explain with own words the structure of the Integral Blade® and the relation between inner and outer laminate by analyzing the laminate plan.
- Demonstrate safe and proper handling of grinding/sanding machines and the usage of appropriate PPE according to relevant safety rules in the work instructions.
- Practice repair quality as specified in the work instructions
- Discuss and argue why the repair is of bad quality.
- Demonstrate how to plan the work effectively so that the work gets done correctly in world quality and in the shortest possible time according to time limits given by the instructor.
- Show how to use appropriate PPE according to relevant work instructions with respect to the material (filler, paint and resin etc.) being used.
- Demonstrate how to document (Photo card, check lists, etc.) the repair work both before during and after repair work.
- Show how to work safely with epoxy, mixing 2-component material and handle it as specified in the relevant Safety Data Sheets (SDS).
- Demonstrate and perform quality control on own and others' fiberglass repair work with relevant technical explanation according to work instructions.
- Demonstrate correct sorting of waste.

Competencies
Upon completion of the course the participants have obtained the following competencies:
To execute repairs according to relevant Work Instructions (WI) and Checklists (CH) which are mentioned in workflow scenarios III, IV, V, VI and VII in Work Instruction D1464420 Introduction to blade structural repair.

Prerequisites

SE-P-16600 Blade level C: Repair of complicated blade structural damage (15 days)
Personal Safety when working with Epoxy and Isocyanates in accordance with Executive Order No. 1793, issued by the Danish Working Authority.

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Contents

Introduction
Welcome and safety information
Personal safety in relation to work with epoxy resins and isocyanates
Assembly of grinder and respirator
Safe use of grinders
General repair.
Using photo card
Review of relevant work instruction and check lists
How to order a specific laminate plan
Review of laminate plan
Repair of hole in blade without balsa (See D1464420)
Curing with heating blanket
Take Tg. sample
Repair of hole in the blade in area with balsa (See D1464420)
Preparation and Installation of backing plate
Measuring of balsa core humidity
Replacement of balsa core (See D1464420)
Apply filler on the repair
Painting the repair
Assessment of the repair

Theory / Practice
25% / 75%

Notes

Upon completion the participants will be certified:
To repair SWP blade damages in accordance with Blade
Fault Catalog Onsite (ZCI 1019466) level D damages.

Validity
12 months

Only DK ICB Material No.
A9BS0000137

Export control

AL-Number: N
ECCN: EAR99