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|  <p>European Aviation Safety Agency</p> | <p>SPECIAL CONDITION</p> <p>Design Properties</p> | <p>Doc. No. : SC-D01</p> <p>Issue : 1</p> <p>Date : 19 Nov 2010</p> <p>Ref. : CRI D-01</p> <p>Page : 1 of 1</p> |
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SUBJECT : Design Properties

CERTIFICATION SPECIFICATION : FAR 23.613, 615 and 619

PRIMARY GROUP / PANEL : -

SECONDARY GROUP / PANEL : -

NATURE : SCN

SPECIAL CONDITION

Design Properties for Composite Structures with FAR 23 Amendment 7

STATEMENT OF ISSUE

The applicant intends to certify the subject aeroplane according FAR Part 23 Amdt 7 (refer to SC-A01).

The primary structure and wings of the subject aeroplane are composite structures. Composite structures can be considered as a novel design in comparison of the metallic structures dated 1970-1980. Strength properties, design values and properties and special factors for composite structures are not adequately covered by FAR Part 23 Amdt 7.

BACKGROUND

FAR Part 23 Amdt 7, 23.613, 23.615 and 23.619 define material strength properties and design values, design properties and special factors mainly for metallic and wood aircraft structures. With the use of composite for aircraft structures, general aviation airworthiness requirements CS-VLA and 23 have been changed to add requirements for these structures, including Acceptable Means of Compliance. AMC to CS-VLA.572 is proposed to evaluate the fatigue aspects of this structure (see SC-C01). AMC to VLA.613, 615 and 619 is proposed as being proportionate and within the spirit of ELA¹ and to be consistent with the use of VLA.572. The subject aircraft is a development of aircraft designed to CS-VLA and these earlier designs have established the precedent and confidence in the use of AMC to CS-VLA rather than CS-23.

PROPOSED SC

In order to show compliance with FAR 23.613, 615 and 619, AMC to CS-VLA.613, 615 and 619 shall be used.

¹ ELA = the European Light Aircraft process, see NPA 2008-07.