

Repair manual LS10-s, -st

0.1 Manual amendments

No.	Page	Description	Date
1	1, 2, 6, 7	Manual revision TN LS10-02	Dezember 2011

Repair manual LS10-s, -st

0.2 Content

Section	Content	page
0.1	Manual amendments	1
0.2	Content	2
0.3	List of effective pages	2
1	Preface.....	3
2	Definition of minor damage.....	4
3	Tools and facilities required	5
4	Material list for FRP repairs	6
5	Instructions for FRP repairs	9
5.1	General.....	9
5.2	Repairs of a composite shell without core.....	9
5.3	Repairing the outer skin of a sandwich panel.....	9
5.4	Repair of outer and inner skin of a sandwich panel.....	10
5.5	Special hints for processing aramidfibres.....	11
5.6	Repairing small dents in a sandwich panel skin	11
5.7	Outer skin finish.....	12
5.8	Repairing control surfaces	12
5.9	Fire protection of engine compartment.....	12
6	Types of materials and overlap dimensions.....	13

0.3 List of effective pages

Section	page	issued	replaced	replaced
0	1	September 09	December 2011	
	2	September 09	December 2011	
1	3	September 09		
2	4	September 09		
3	5	September 09		
4	6	September 09	December 2011	
	7	September 09	December 2011	
5	8	September 09		
	9	September 09		
	10	September 09		
	11	September 09		
6	12	September 09		
	13	September 09		
	14	September 09		
	15	September 09		

Repair manual LS10-s, -st

4 Material list for FRP repairs

Resinsystems for repairs

Resin Momentive EPIKOTE™ Resin MGS LR 285 with

Hardener EPIKURE™ Curing Agent MGS LH 286

mixing ratio 100:40 ±2 by weight

or

Resin Momentive EPIKOTE™ Resin MGS LR 385 with

Hardener EPIKURE™ Curing Agent MGS LH 386

mixing ratio 100:35 ±2 by weight

Caution: Don't use LR 385/LH 386 for repair of glasfibre components.

The repaired areas must be postcured for 20 hours at a min. of 54°C (129°F) up to max. 65°C (149°F) before the next take-off.

Fibre glass fabric

Interglas No.	US-No.	Weave	Weight (g/m ²)
90 070	1610	Linen	80
92 110	.-	Twill	163
92 125	.-	Twill	280
92 130	.-	Linen	390
92 140	.-	Twill	390
92 145	180-150	unidirectional	220

All fabrics - finish I 550 or FK 144

Fibre Glass Rovings

EC 14-2400-P 185 with Silan finish

Carbonfibre fabric

Weight g/m ²	Weave	Manufacturer	Type
fabric with fibres HTA 3000 appr.245	Twill	Sigri	KDL 8043
		Interglas	98151
		C. Cramer	Style C 462
appr.205	Twill	Sigri	KDK 8042
		Interglas	98141
		C. Cramer	Style 452
appr.120	unidirectional Linen	Interglas	04387
		C. Cramer	Style 763

Repair manual LS10-s, -st

Carbonfibre +45° multiaxial sheets

epo MX C ST250/710 (250 g/m²) (wing shell)

epo MX C ST 160/800 (160 g/m²) (flaperons, inboard wing shell)

Note: For small repairs as defined in section instead of the multiaxial sheets Carbonfibre fabric with same or higher weight may be used. For all larger repairs the multiaxial sheets must be used.

Carbonfibre tape

Sigri KDU 1006 (365 g/m²) 16,5 cm wide (Cockpit)

epo UD CST 290 (290 g/m²) 5 and 2,5 cm wide (root rib caps at wing root and üarting)

as an alternative to UD CST 290

Sigri KDU 1009 5 and 2,5 cm wide

Bauer UD-tape 17214 (205g/m²)16,5 cm wide (Cockpit)

Carbonfibre rovings

Toho Tenax HTS40 F13 24K 1600tex

Diolen fabric

C. Cramer style 14 K (158 g/m²) (as core in the flaperons of the 18 m wingtips)

C. Cramer style 26 K (264 g/m²) (fuselage tube, wing trailing edges)

Aramidfibre fabric

Linen weave 61 g/m², C. Cramer Style 120

Foam

Diab Divinycell H 60 colour green (wing shells, flaperons, rudder)

Diab Divinycell H 80 colour brown (HT stabilizer)

Diab Divinycell HP 80 colour light brown (wing spar shear webs)

Paint

UP (Polyester Gelcoats)

Lesonal UP Schwabbellack 0369066 with hardener 0720510

mixing ratio: 100:2

Up to 10 % thinner 0630260 can be used.

or Momentive MGS T35 with hardener SF 2

mixing ratio: 100:2-3

Up to 10 % thinner SF can be used.

or PUR paint if such paint was optionally applied

Paint for fire protection of engine compartment: see section 5.9.