1206-TA T

BACCALAURÉAT PROFESSIONNEL

TECHNICIEN AÉROSTRUCTURE

Session 2012

DOSSIER TECHNIQUE

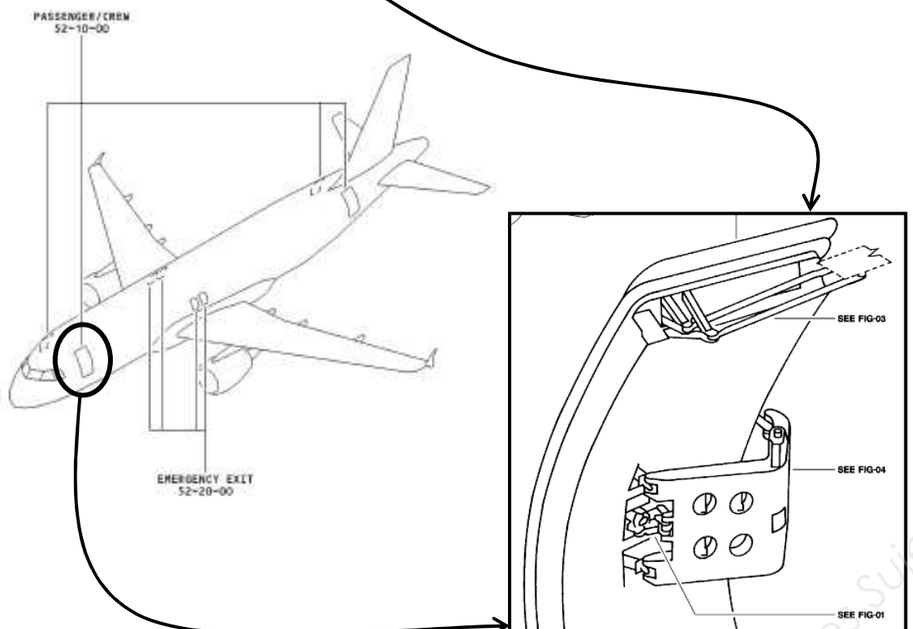
Durée : 4 heures **Coefficient : 4**

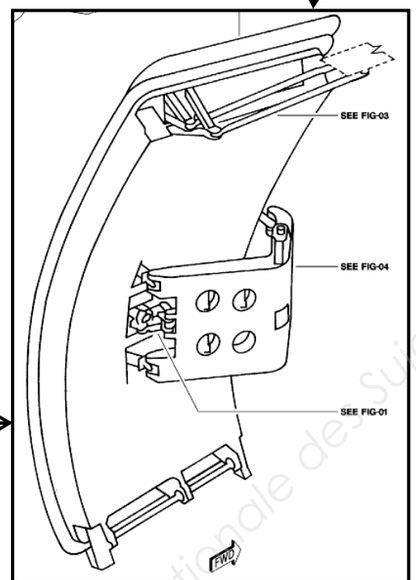
ÉPREUVE E2 – ÉPREUVE DE TECHNOLOGIE

(U2) - ANALYSE ET COMMUNICATION TECHNIQUES

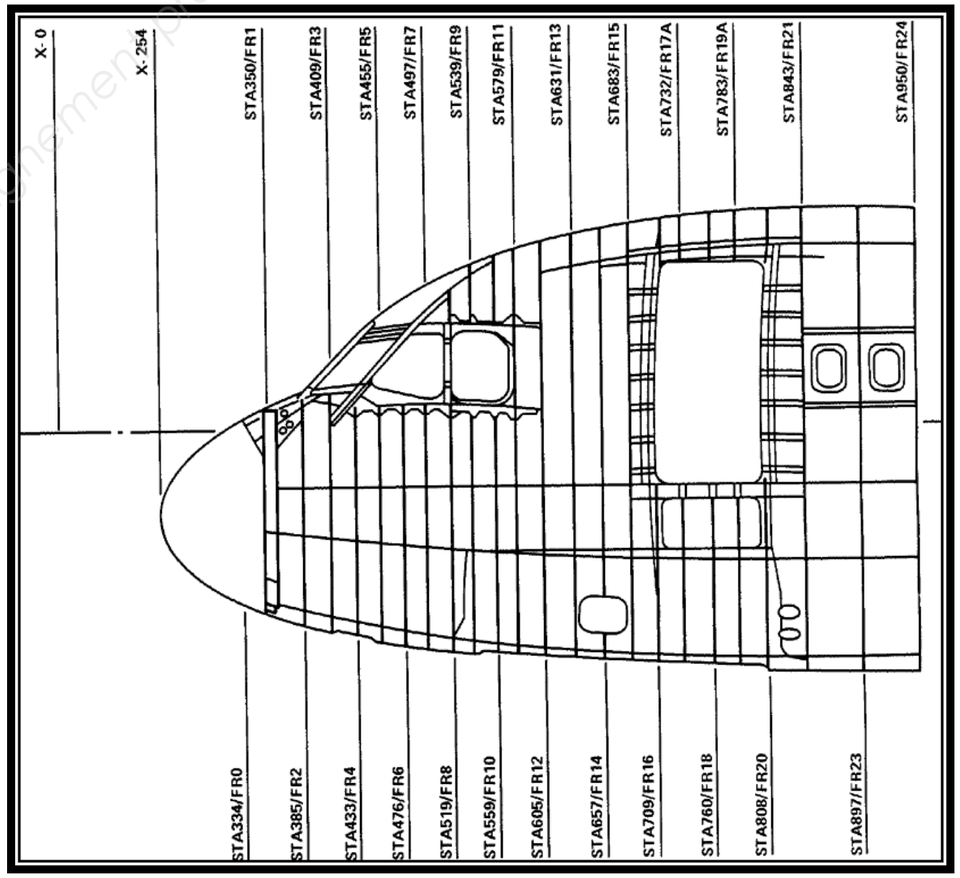
Ce dossier technique comporte **19** pages, numérotées de **DT 1 /19** à **DT 19 / 19**.
Assurez-vous que cet exemplaire est complet.
S'il est incomplet, demandez un autre exemplaire au chef de salle.

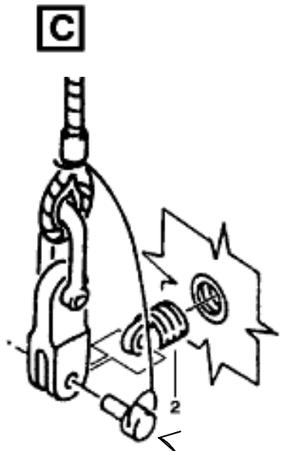
CONSTRUCTION MECANIQUE





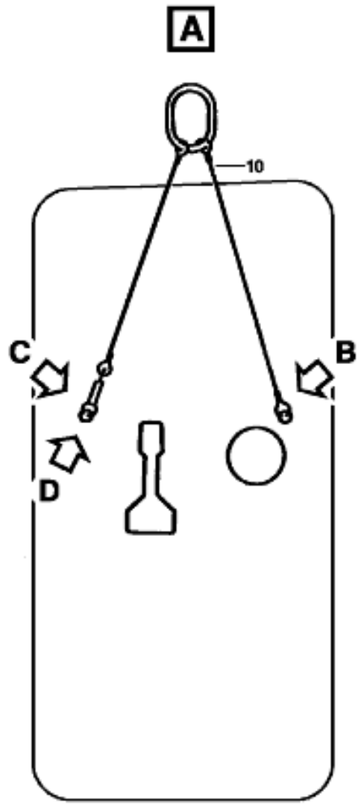
ZONE D'ETUDE

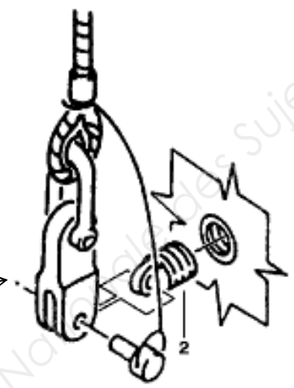




IS

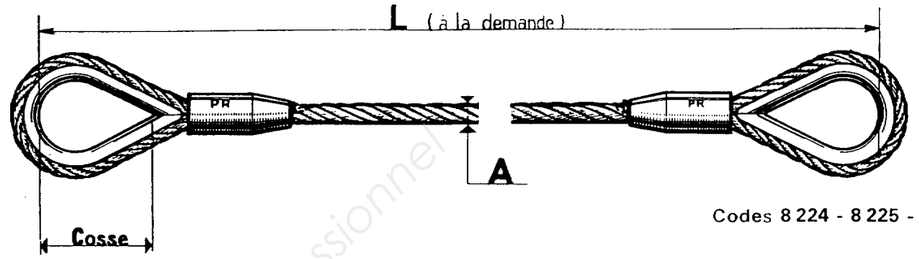
Axes de fixation





Fittings

élingue câble avec cosses-cœur



Codes 8 224 - 8 225 - 8 226

Charge de travail N kg	A mm	COMPOSITION (Acier clair 180/200) (Ame textile) Torons	Diamètre fil de base mm	••• Rupture minimum de l'élingue man-chonnée kg	L mètres	Poids N kg	Poids du M en ± kg	Code STAS avec cosses
• 500	7,5	6 × 19	0,5	3 100	1	0,375	0,210	8 224 A
• 750	9,0	6 × 19	0,6	4 500	1	0,600	0,300	8 224 B
• 1 000	10,5	6 × 19	0,7	6 100	1	0,910	0,410	8 224 C
• 1 500	12,4	6 × 36	0,7	9 000	2	1,700	0,600	8 225 A
• 1 920	14,1	6 × 36	0,8	11 520	2	2,500	0,780	8 225 B
• 2 500	15,9	6 × 36	0,9	15 000	3	4,500	0,980	8 225 C
3 240	18,6	6 × 36	1,05	19 440	3	5,800	1,330	8 225 D
4 350	21,2	6 × 36	1,20	26 100	3	7,500	1,750	8 225 E
4 875	23,0	6 × 36	1,30	29 250	3	9,400	1,960	8 225 F
5 850	24,8	6 × 36	1,40	35 100	4	13,500	2,380	8 225 G
6 750	26,5	6 × 36	1,50	40 500	4	16,400	2,730	8 225 H
7 700	28,3	6 × 36	1,60	46 200	5	22,000	3.100	8 225 J
8 800	30,1	6 × 36	1,70	52 800	5	26,900	3,500	8 225 K
10 000	31,8	6 × 36	1,80	60 000	6	31,700	3,950	8 225 L
12 100	37,8	6 × 61	1,4	73 000	6	46,400	5,250	8 226 A
14 000	40,5	6 × 61	1,5	84 000	6	58,120	6,000	8 226 B
16 000	43,2	6 × 61	1,6	96 000	7	73,400	6,850	8 226 C
18 000	45,9	6 × 61	1,7	108 000	7	84,000	7,750	8 226 D
20 000	48,6	6 × 61	1,8	121 000	7	93,300	8,650	8 226 E
22 500	51,3	6 × 61	1,9	135 000	8	124,000	9,650	8 226 F
24 500	54	6 × 61	2,0	149 000	8	135,900	10,700	8 226 G
27 500	56,7	6 × 61	2,1	165 000	8	149,700	11,800	8 226 H
30 000	59,4	6 × 61	2,2	181 000	8	157,000	12,900	8 226 J
33 000	62,1	6 × 61	2,3	198 000	8	170,000	14,100	8 226 K
36 000	64,8	6 × 61	2,4	216 000	8	186,000	15,400	8 226 L
39 000	67,5	6 × 61	2,5	234 000	8	206.000	16,700	8 226 M
42 000	70,2	6 × 61	2,6	252 000	8	224.000	18,000	8 226 N
45 500	72,9	6 × 61	2,7	273 000	8	239,000	19,500	8 226 P
48 800	75,6	6 × 61	2,8	293 000	8	272,000	20,900	8 226 Q

Coefficient de Sécurité : 6

Toutes longueurs «L» sur demande.

Cosses Standard: Le diamètre intérieur d'une cosse est égal à 2,5 fois environ le diamètre du câble et la longueur intérieure est égale à 4 fois environ le le diamètre du câble.

Sur demande : épreuve au double de la charge nominale par un Service de Sécurité Agréé

Les manchons PR en aluminium sont déconseillés pour une utilisation à une température supérieure à 200° centigrades.

Utilisation selon les Réglements des Services de Sécurité Officiels, les Règles du B.I.T. à Genève et les Recommandations du Guide STAS.

•Sur demande avec protection caoutchouc néoprène FLEXFORT.

•••Conformément à la réglementation SEC/AL N° 11

STAS

•• La charge de travail sur 1 brin vertical (cas du fil à plomb : élingage STAS cas n° 1, Annexe Y3), est la charge pratique que peut lever l'élingue travaillant verticalement. Cette charge pratique, conformément au décret du 9 Août 1925 est égale au 1/6e de la charge de rupture de l'accessoire considéré (élingue terminée après sertissage des manchons).

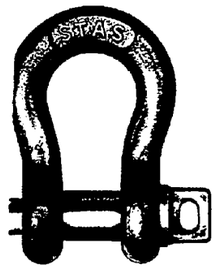
Pour les élingages complexes, consulter notre Notice « Elingages Types » qui indique les différents cas d'élingage avec le coefficient de sécurité obligatoire pour chacun d'eux.

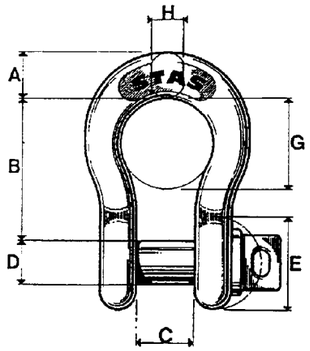
manille lyre à vis

Qualité STAS-ALLOY

coefficient d'utilisation : 6

r demande : épreuve au double de la charge minale par un Service de Sécurité agréé





Manille conforme à la Norme française homologuée NF E 52 144 en ce qui concerne les performances. Les dimensions sont différentes (voir paragraphe 4.1 de la Norme).

C.M.U. N	A mm	B mm	C mm	Calibre D mm	E mm	G mm	H mm	Rupture N	Masse kg	Code STAS
1 000	11	33.5	13.5	10	22	21	8.5	6 000	0.1	8C
1 500	13	39	16	12	26	25	10	9 000	0.17	8D
2 000	15	45.5	18.5	14	30	29	11.5	12 000	0.27	8E
3 000	17	52	21	16	34	33	13	18 000	0.4	8F
3 500	19.5	59	24	18	38	37.5	15	21 000	0.54	8G
4 000	21.5	65.5	26.5	20	42	41.5	16.5	24 000	0.8	8H
4 500	23.5	72	29	22	46	45.5	18	27 000	1	8J
5 500	25.5	78.5	31.5	24	50	49.5	19.5	33 000	1.3	8K
7 000	29	88	35.5	27	56	56	22	42 000	1.9	8L
8 000	32	97.5	39.5	30	62	62	24.5	48 000	2.6	8M
10 000	35	107	43.5	33	68	68	27	60 000	3.5	8N
13 500	41.5	127	51	39	81	80.5	32	81 000	5.8	8Q
15 500	45	136	55.5	42	87	87	34.5	93 000	7	8R
18 000	48	146	59	45	93	93	37	108 000	9	8S
21 000	*51*	*156*	*63*	*48*	*99*	*99*	*39*	*126 000*	*11*	*8T*
24 000	56	170	69	52	107	108	43	144 000	14	8V
27 000	60	183	74	56	115	116	46	162 000	18	8W
40 000	64	195	79	60	123	124	49	240 000	22	8X
45 000	68	208	84	64	131	132	52	270 000	26	8Y
55 000	77	235	95	72	148	149	59	330 000	37	8Z
60 000	81	247	100	76	156	157	62	360 000	50	9A

Matériel conforme aux Exigences essentielles de Sécurité des Directives 89/392/CEE et 91/368/CEE. Fourni avec Déclaration de Conformité CE

Manilles zinguées : Code 18

Forces supérieures sur demande

Utilisation et restrictions d'emploi selon les Normes NF E 52151, les Règlements des Services de Sécurité Officiels, les Recommandations du Guide STAS, et la Notice d'Instructions NI 10009

STAS

FORMULAIRE

Masse volumique : $\rho = m/V$

ρ : masse volumique
m: masse du volume
V : volume

Poids : $P = m \cdot g$

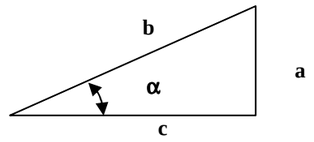
P : poids
m: masse
g : accélération de la pesanteur = 9,81 N/Kg

Trigonométrie: Relations dans le triangle rectangle.

a= Coté opposé à α.

b= Hypothénuse *(coté opposé à l'angle droit).*

c= Coté adjacent à α.



✓ $\sin \alpha = \frac{opposé}{hypothénuse} = \frac{a}{b}$

✓ $\cos \alpha = \frac{adjacent}{hypothénuse} = \frac{c}{b}$

✓ $\tan \alpha = \frac{opposé}{adjacent} = \frac{a}{c}$

Cisaillement:

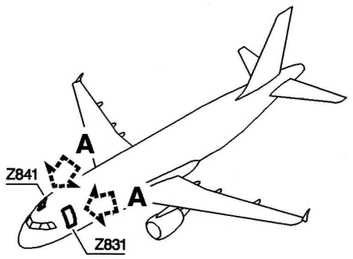
τ : contrainte de cisaillement ou tangentielle. → : $\tau = T / S$
T : effort tranchant.
S : aire de la section.
k : coefficient de sécurité

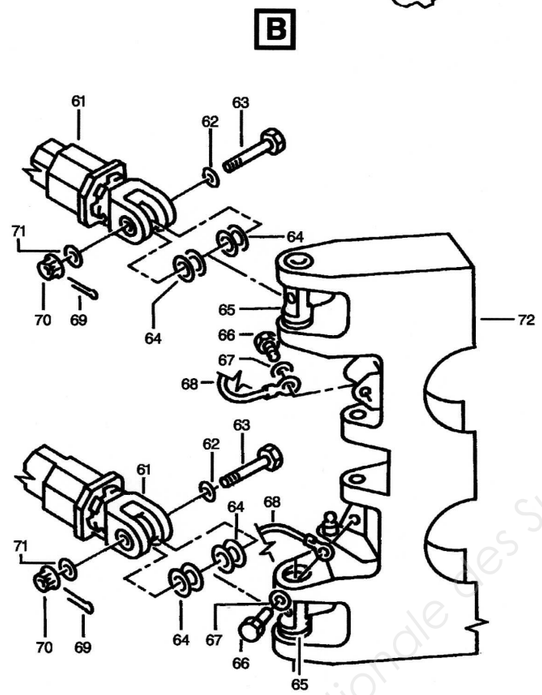
Condition de résistance : $\tau \leq$ Rpg, Résistance pratique au glissement : Rpg = Reg/k

	Résistance élastique au glissement Reg
Re ≤ 270 Mpa	Reg= 0,5 x Re
270 Mpa ≤Re ≤ 520Mpa	Reg= 0,8 x Re

Caractéristiques aciers non alliés:

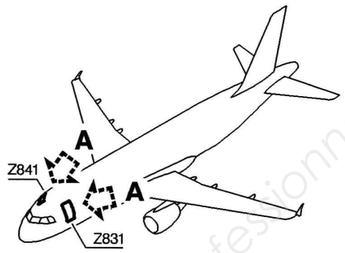
S185 : Re = 185 MPa
S235 : Re = 235 MPa
E295 : Re = 295 MPa

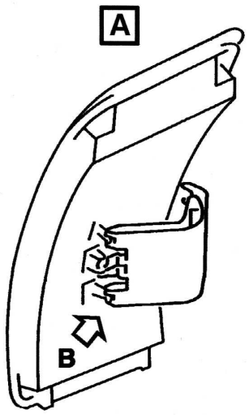




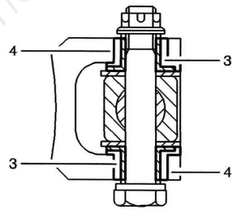
NM5 52 11 11 4 AJM0 05

Door Attachment to the Support Arm
Figure 403/TASK 52-11-11-991-004

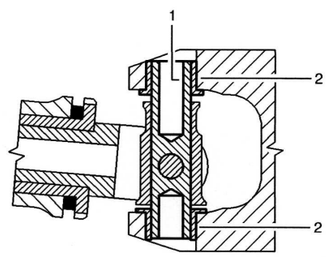


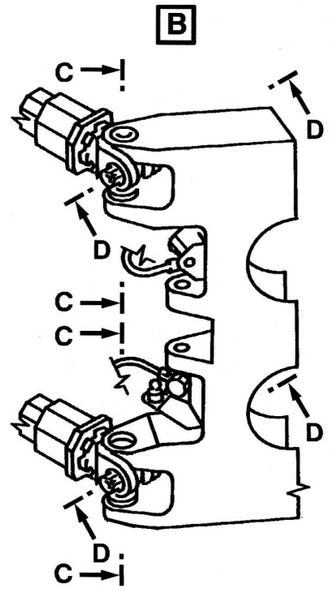


SECTION
D-D



SECTION
C-C





NM5 52 11 12 6 AAM0 00

Door Support Arm
Figure 601/TASK 52-11-12-991-011

14 ■ 26

PRINCIPAUX ÉCARTS EN MICROMETRES

ALÉSAGES	Jusqu'à 3 inclus	3 à 6 inclus	6 à 10	10 à 16	18 à 30	30 à 50	50 à 80	80 à 120
D 10	+ 60 + 20	+ 78 + 30	+ 98 + 40	+ 120 + 50	+ 149 + 65	+ 180 + 80	+ 220 + 100	+ 260 + 120
F 7	+ 16 + 6	+ 22 + 10	+ 28 + 13	+ 34 + 16	+ 41 + 20	+ 50 + 25	+ 60 + 30	+ 71 + 36
G 6	+ 8 + 2	+ 12 + 4	+ 14 + 5	+ 17 + 6	+ 20 + 7	+ 25 + 9	+ 29 + 10	+ 34 + 12
H 6	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 16 0	+ 19 0	+ 22 0
H 7	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0
H 8	+ 14 0	+ 18 0	+ 22 0	+ 27 0	+ 33 0	+ 39 0	+ 46 0	+ 54 0
H 9	+ 25 0	+ 30 0	+ 36 0	+ 43 0	+ 52 0	+ 62 0	+ 74 0	+ 87 0
H 10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 140 0
H 11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 210 0
H 12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 350 0
H 13	+ 140 0	+ 180 0	+ 220 0	+ 270 0	+ 330 0	+ 390 0	+ 460 0	+ 540 0
J 7	+ 4 − 6	+ 6 − 6	+ 8 − 7	+ 10 − 8	+ 12 − 9	+ 14 − 11	+ 18 − 12	+ 22 − 13
K 6	0 − 6	+ 2 − 6	+ 2 − 7	+ 2 − 9	+ 2 − 11	+ 3 − 13	+ 4 − 15	+ 4 − 18
K 7	0 − 10	+ 3 − 9	+ 5 − 10	+ 6 − 12	+ 6 − 15	+ 7 − 18	+ 9 − 21	+ 10 − 25
M 7	− 2 − 12	0 − 12	0 − 15	0 − 18	0 − 21	0 − 25	0 − 30	0 − 35
N 7	− 4 − 14	− 4 − 16	− 4 − 19	− 5 − 23	− 7 − 28	− 8 − 33	− 9 − 39	− 10 − 45

Tableau des ajustements issus du "Guide du dessinateur" "Edition Hachette"

ARBRES	Jusqu'à 3 inclus	3 à 6 inclus	6 à 10	10 à 18	18 à 30	30 à 50	50 à 80	80 à 120	120 à 180
a 11	− 270 − 330	− 270 − 345	− 280 − 370	− 290 − 400	− 300 − 430	− 320 − 470	− 360 − 530	− 410 − 600	− 580 − 710
c 11	− 60 − 120	− 70 − 145	− 80 − 170	− 95 − 205	− 110 − 240	− 130 − 280	− 150 − 330	− 180 − 390	− 230 − 450
d 9	− 20 − 45	− 30 − 60	− 40 − 75	− 50 − 93	− 65 − 117	− 80 − 142	− 100 − 174	− 120 − 207	− 145 − 245
d 10	− 20 − 60	− 30 − 78	− 40 − 98	− 50 − 120	− 65 − 149	− 80 − 180	− 100 − 220	− 120 − 250	− 145 − 305
d 11	− 20 − 80	− 30 − 105	− 40 − 130	− 50 − 160	− 65 − 195	− 80 − 240	− 100 − 290	− 120 − 340	− 145 − 395
e 7	− 14 − 24	− 20 − 32	− 25 − 40	− 32 − 50	− 40 − 61	− 50 − 75	− 60 − 90	− 72 − 107	− 85 − 125
e 8	− 14 − 28	− 20 − 38	− 25 − 47	− 32 − 59	− 40 − 73	− 50 − 89	− 60 − 106	− 72 − 126	− 85 − 148
e 9	− 14 − 39	− 20 − 50	− 25 − 61	− 32 − 75	− 40 − 92	− 50 − 112	− 60 − 134	− 72 − 159	− 85 − 185
f 6	− 6 − 12	− 10 − 18	− 13 − 22	− 16 − 27	− 20 − 33	− 25 − 41	− 30 − 49	− 36 − 58	− 43 − 68
f 7	− 6 − 16	− 10 − 22	− 13 − 28	− 16 − 34	− 20 − 41	− 25 − 50	− 30 − 60	− 36 − 71	− 43 − 83
f 8	− 6 − 20	− 10 − 28	− 13 − 35	− 16 − 43	− 20 − 53	− 25 − 64	− 30 − 76	− 36 − 90	− 43 − 106
g 5	− 2 − 6	− 4 − 9	− 5 − 11	− 6 − 14	− 7 − 16	− 9 − 20	− 10 − 23	− 12 − 27	− 14 − 32
g 6	− 2 − 8	− 4 − 12	− 5 − 14	− 6 − 17	− 7 − 20	− 9 − 25	− 10 − 29	− 12 − 34	− 14 − 39
h 5	0 − 4	0 − 5	0 − 6	0 − 8	0 − 9	0 − 11	0 − 13	0 − 15	0 − 18
h 6	0 − 6	0 − 8	0 − 9	0 − 11	0 − 13	0 − 16	0 − 19	0 − 22	0 − 25
h 7	0 − 10	0 − 12	0 − 15	0 − 18	0 − 21	0 − 25	0 − 30	0 − 35	0 − 40
h 8	0 − 14	0 − 18	0 − 22	0 − 27	0 − 33	0 − 39	0 − 46	0 − 54	0 − 63
h 9	0 − 25	0 − 30	0 − 36	0 − 43	0 − 52	0 − 62	0 − 74	0 − 87	0 − 100
h 10	0 − 40	0 − 48	0 − 58	0 − 70	0 − 84	0 − 100	0 − 120	0 − 140	0 − 160
h 11	0 − 60	0 − 75	0 − 90	0 − 110	0 − 130	0 − 160	0 − 190	0 − 220	0 − 250
h 13	0 − 140	0 − 180	0 − 220	0 − 270	0 − 330	0 − 390	0 − 460	0 − 540	0 − 630
j 6	+ 4 − 2	+ 6 − 2	+ 7 − 2	+ 8 − 3	+ 9 − 4	+ 11 − 5	+ 12 − 7	+ 13 − 9	+ 14 − 11
js 5	± 2	± 2,5	± 3	± 4	± 4,5	± 5,5	± 6,5	± 7,5	± 9
js 6	± 3	± 4	± 4,5	± 5,5	± 6,5	± 8	± 9,5	± 11	± 12,5
js 9	± 12	± 15	± 18	± 21	± 26	± 31	± 37	± 43	± 50
js 11	± 30	± 37	± 45	± 55	± 65	± 80	± 95	± 110	± 125
k 5	+ 4 0	+ 6 + 1	+ 7 + 1	+ 9 + 1	+ 11 + 2	+ 13 + 2	+ 15 + 2	+ 18 + 3	+ 21 + 3
k 6	+ 6 0	+ 9 + 1	+ 10 + 1	+ 12 + 1	+ 15 + 2	+ 18 + 2	+ 21 + 2	+ 25 + 3	+ 28 + 3
m 5	+ 6 + 2	+ 9 + 4	+ 12 + 6	+ 15 + 7	+ 17 + 8	+ 20 + 9	+ 24 + 11	+ 28 + 13	+ 33 + 15
m 6	+ 8 + 2	+ 12 + 4	+ 15 + 6	+ 18 + 7	+ 21 + 8	+ 25 + 9	+ 30 + 11	+ 35 + 13	+ 40 + 15
n 6	+ 10 + 4	+ 16 + 8	+ 19 + 10	+ 23 + 12	+ 28 + 15	+ 33 + 17	+ 39 + 20	+ 45 + 23	+ 52 + 27

STRUCTURE

Introduction

Cet avion est de conception récente « Damage tolerant » .Son fuselage de section circulaire est pressurisé.

Sa structure primaire est principalement en alliages légers de séries 2000 et 7000 ayant subis différents traitements thermique ainsi qu'en carbone époxy.

Certains renforts et ferrures sont en alliages de Titane.
La plupart des pièces métalliques sont issues de corroyage et usinées.

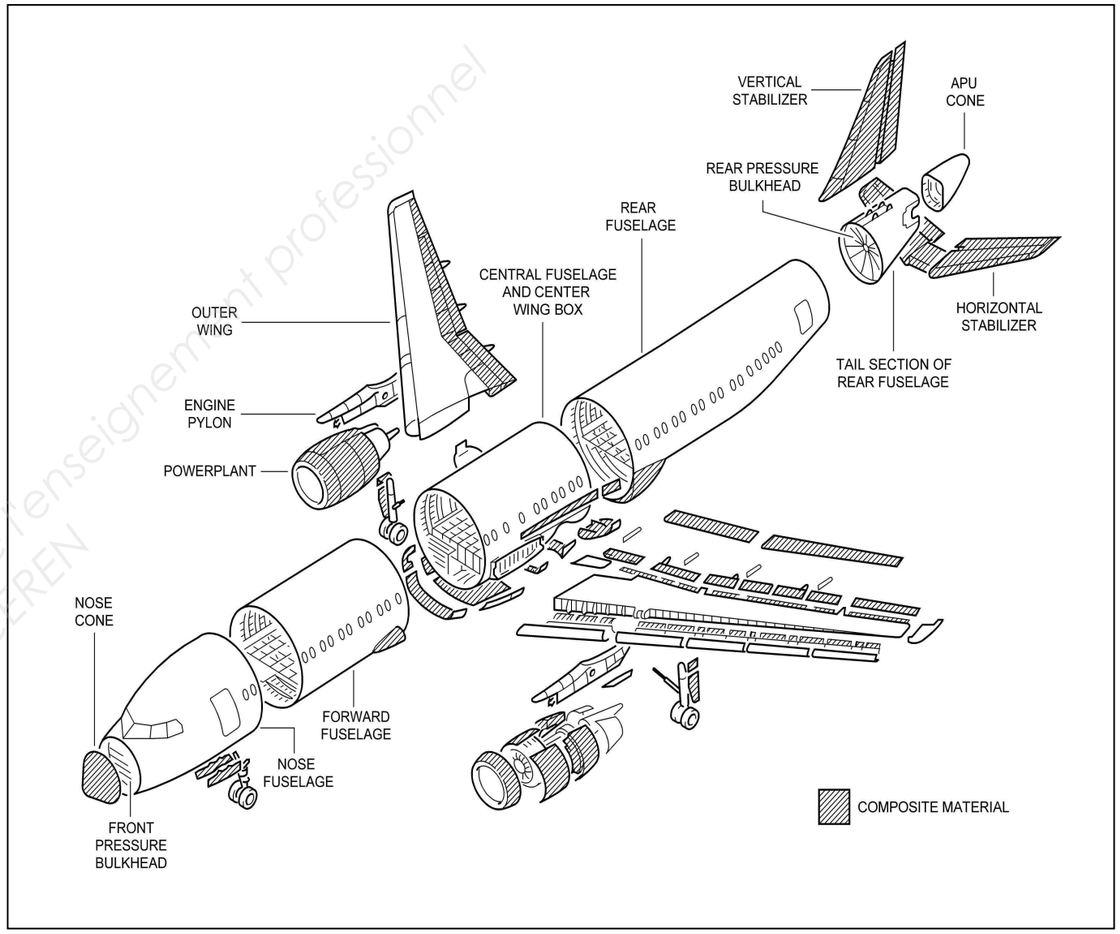
Les pièces en composite sont de type monolithique ou sandwich fabriquées sur formes.

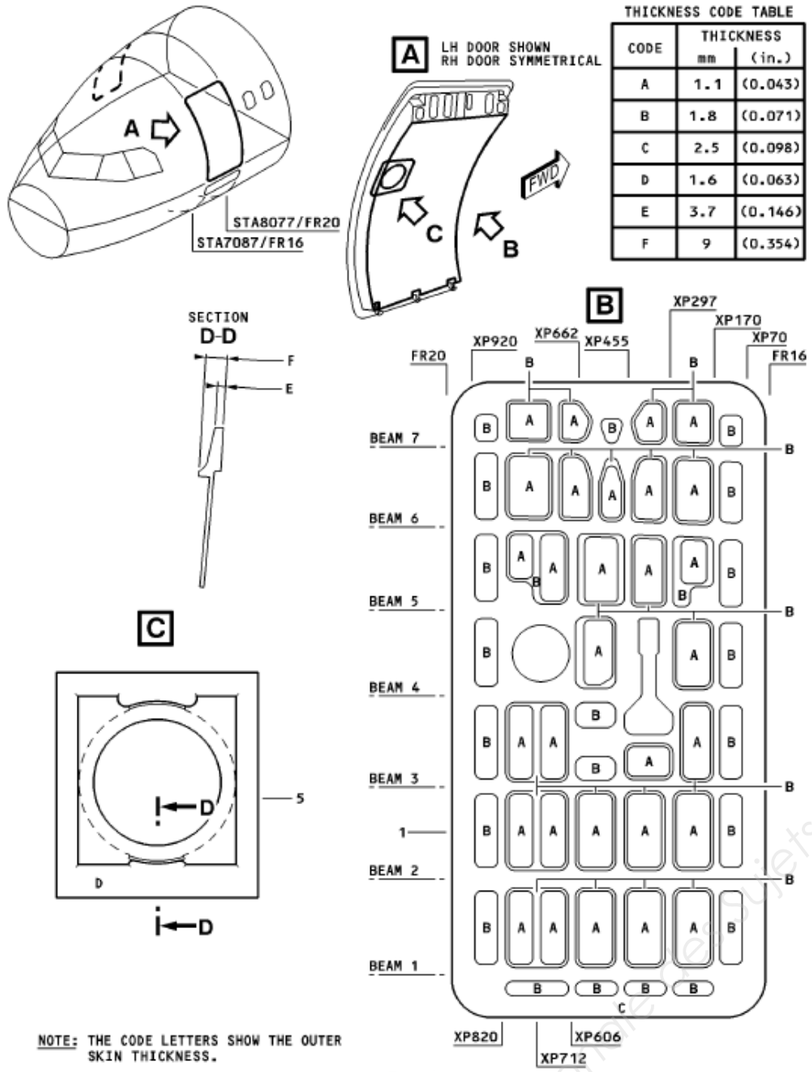
La partie arrière du fuselage est constituée de panneaux et de renforts d'épaisseurs différentes ainsi que de couples et de lisses usinés.

Les portes de cet avion sont soit constituées d'alliages légers usinés ou de matériaux composites

Le type d'appareil : A320-200

Le numéro d'effectivité est le « 014 ».





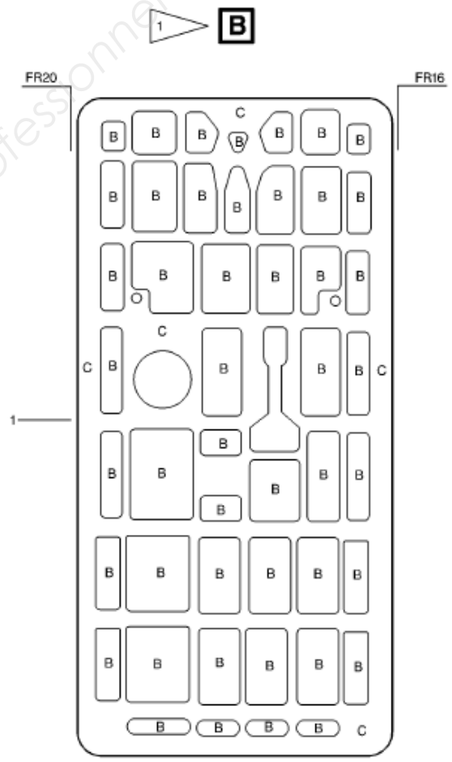
THICKNESS CODE TABLE

CODE	THICKNESS mm	(in.)
A	1.1	(0.043)
B	1.8	(0.071)
C	2.5	(0.098)
D	1.6	(0.063)
E	3.7	(0.146)
F	9	(0.354)

NOTE: THE CODE LETTERS SHOW THE OUTER SKIN THICKNESS.

NSS 52 11 00 0 AAMO 01 0

Panel
Figure 1 (sheet 1)



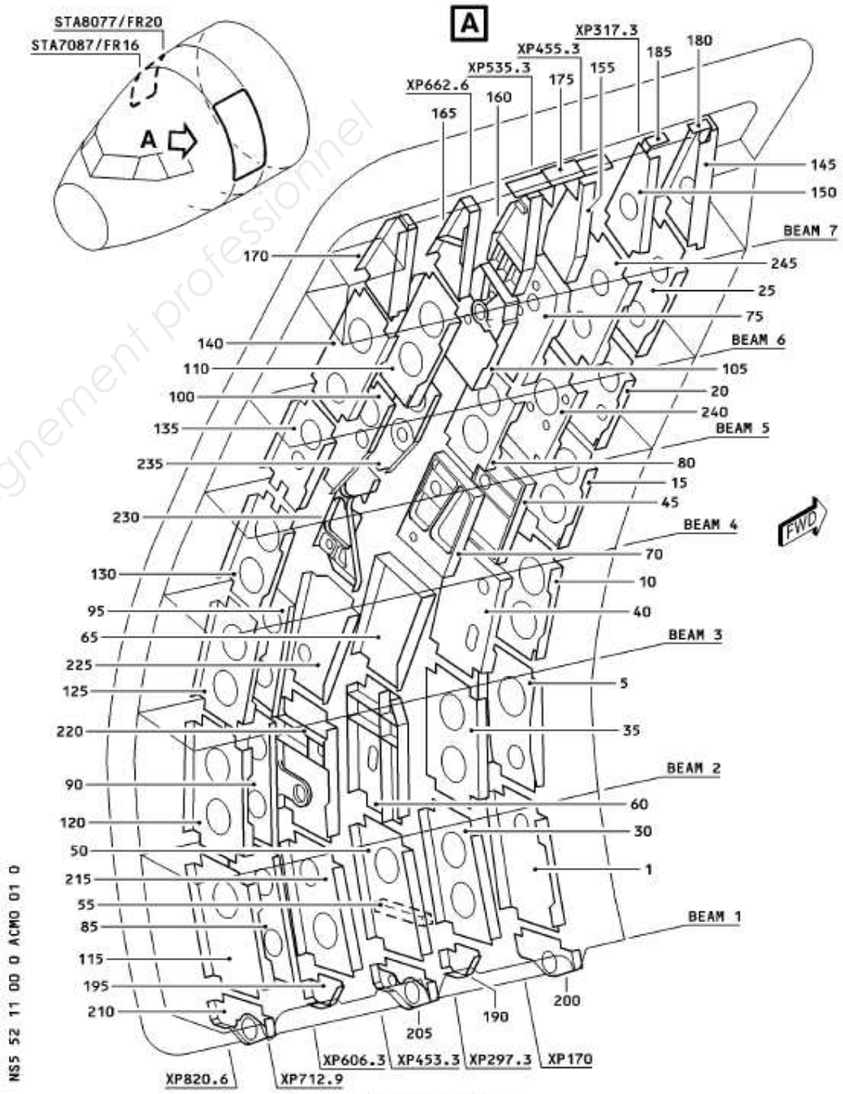
1 AFTER MOD.23010P2754

NSS 52 11 00 0 AAMT 01 0

Panel
Figure 1 (sheet 2)

ITEM	NOMENCLATURE	SPECIFICATION AND/OR SECTION CODE	THICKNESS IN MM(IN.) AND/OR PARTNUMBER	I C	ACTION OR REPAIR	STATUS (MOD/PROP) SB/RC
1	Skin	clad2024T42 ASN-A30038677	D52110415200 201		52-10-00	
1A	Skin	clad2024T42 ASN-A30038677	D52110415202 203	01	52-10-00	A20717P1043
1B	Skin	clad2024T42 ASN-A30038677	D52110850200 201	01	52-10-00	A23010P2754
1C	Skin	clad2024T4 ASN-A61298677	D52110819200 201	01	52-10-00	A27998P5598A
5	Doubler Window	7175T7351 ASN-A30508870	D52110422200 201			
5A	Doubler Window	7175T7351 ASN-A30508870	D52110422202 203	03		A27998P5598
ASSY Dwg.: D52110416						

Key to Figure 1



Cross Members
Figure 2

ITEM	NOMENCLATURE	SPECIFICATION AND/OR SECTION CODE	THICKNESS IN MM(IN.) AND/OR PARTNUMBER	I C	ACTION OR REPAIR	STATUS (MOD/PROP) SB/RC
130	Cross Member	clad2024T42 ASN-A30428628	D52110385200 201 1.6 (0.063)			
130A	Cross Member	clad2024T42 ASN-A30428628	D52110385202 203 1.6 (0.063)	01		A27998P5598
135	Cross Member	clad2024T42 ASN-A30428600	D52110388200 201 1.2 (0.047)			
140	Cross Member	clad2024T42 ASN-A30428600	D52110391200 201 1.2 (0.047)			
145	Cross Member	clad2024T42 ASN-A30428618	D52110476200 201 1.4 (0.055)			
150	Cross Member	clad2024T42 ASN-A30428618	D52110477200 201 1.4 (0.055)			
155	Cross Member	7175T7351 ASN-A30508878	D52110061200 201			
160	Cross Member	7175T7351 ASN-A30508878	D52110062200 201			
165	Cross Member	7175T7351 ASN-A30508878	D52110478200 201			
170	Cross Member	7175T7351 ASN-A30508894	D52110479200 201			
175	Fitting Joint	7175T7351 ASN-A30508903	D52110067200 201			
180	Angle Stabilizing	clad2024T42 ASN-A30428628	D52110486200 201 1.6 (0.063)			
185	Angle Stabilizing	clad2024T42 ASN-A30428628	D52110487200 201 1.6 (0.063)			
190	Cross Member	clad2024T42 ASN-A30428600	D52110492200 201 1.2 (0.047)			
195	Cross Member	clad2024T42 ASN-A30428600	D52110494200 201 1.2 (0.047)			

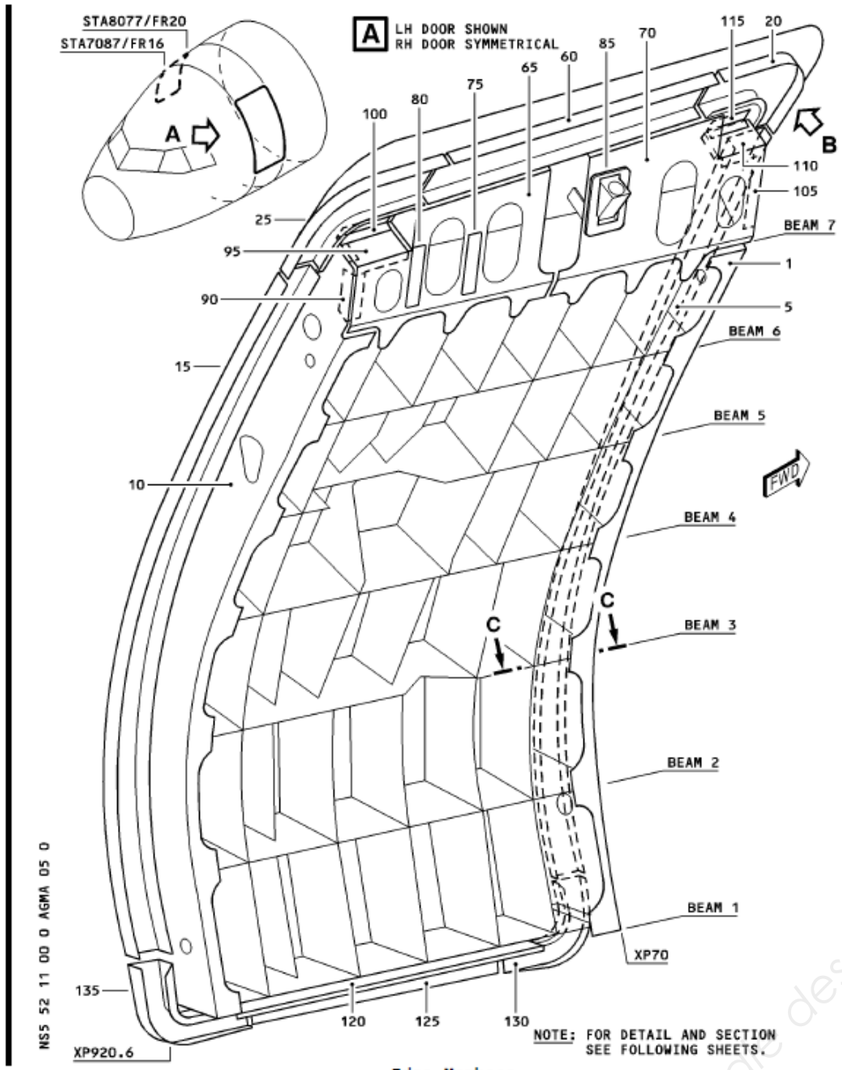
ASSY Dwg.: D52110425, D52110490, D52110540

Key to Figure 2

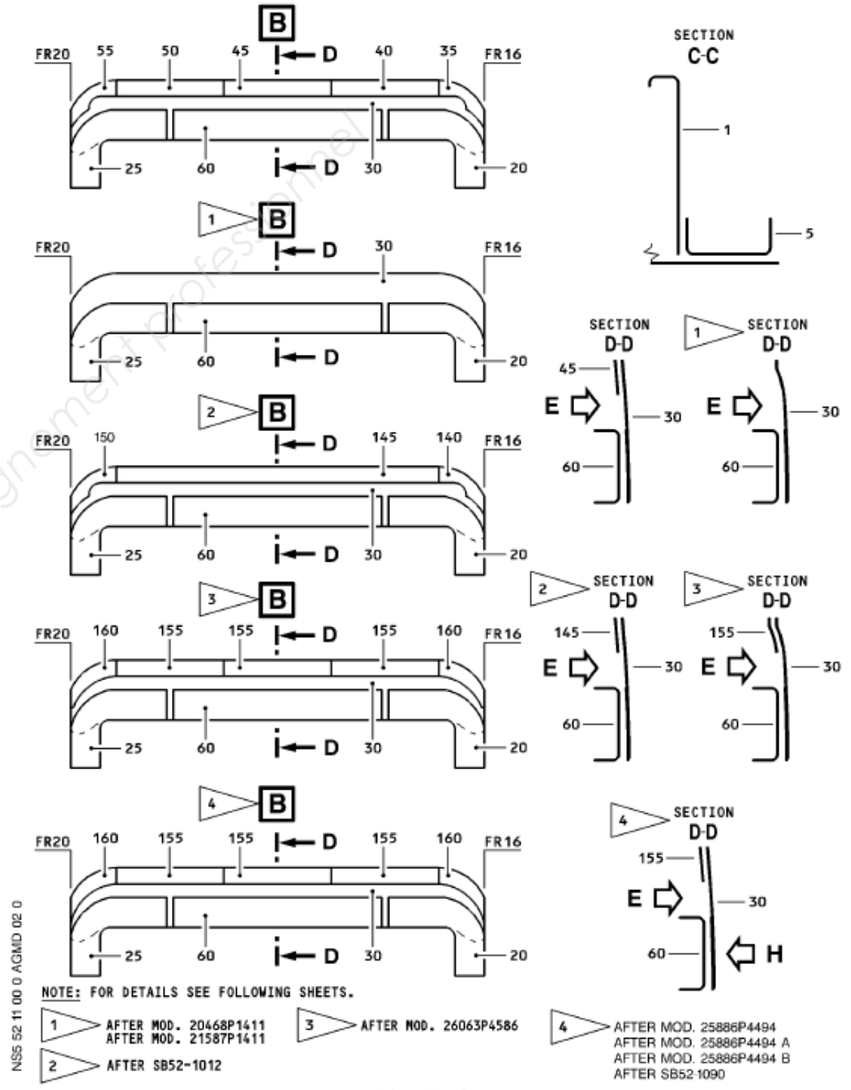
ITEM	NOMENCLATURE	SPECIFICATION AND/OR SECTION CODE	THICKNESS IN MM(IN.) AND/OR PARTNUMBER	I C	ACTION OR REPAIR	STATUS (MOD/PROP) SB/RC
200	Cross Member	7175T7351 ASN-A30508878	D52110491200 201			
205	Cross Member	7175T7351 ASN-A30508870	D52110493200 201			
210	Cross Member	7175T7351 ASN-A30508878	D52110496200 201			
215	Cross Member	7175T7351 ASN-A30508870	D52110401200 201			
215A	Cross Member	7175T7351 ASN-A30508870	D52110401202 203	01		A20274P0382
220	Cross Member	7175T7351 ASN-A30508878	D52110403200 201			
220A	Cross Member	7175T7351 ASN-A30508878	D52110403202 203	01		A22422P2455
220B	Member Arch	7175T7351 ASN-A30508878	D52110403204 205	01		A24497P3624
220C	Member Arch	7175T7351 ASN-A30508878	D52110403206 207	01		A27141P4903
225	Cross Member	7175T7351 ASN-A30508870	D52110800200 201			
230	Cross Member	7175T7351 ASN-A30508870	D52110408200 201			
230A	Cross Member	7175T7351 ASN-A30508870	D52110408202 203	01		A22422P2455
230B	Member Arch	7175T7351 ASN-A30508870	D52110408204 205	01		A24497P3624
230C	Member Arch	7175T7351 ASN-A30508870	D52110408206 207	01		A27141P4903
235	Cross Member	7175T7351 ASN-A30508870	D52110411200 201			
235A	Cross Member	7175T7351 ASN-A30508870	D52110411202 203	03		A27998P5598
240	Cross Member	7175T7351 ASN-A30508870	D52110410200 201			
245	Cross Member	7175T7351 ASN-A30508870	D52110412200 201			
245A	Cross Member	7175T7351 ASN-A30508870	D52110412202 203	01		A20190P0429

ASSY Dwg.: D52110321, D52110350, D52110363, D52110369, D52110395, D52110397, D52110410, D52110490

Key to Figure 2



Edge Members
Figure 4 (sheet 1)



Edge Members
Figure 4 (sheet 2)

ITEM	NOMENCLATURE	SPECIFICATION AND/OR SECTION CODE	THICKNESS IN MM(IN.) AND/OR PARTNUMBER	I C	ACTION OR REPAIR	STATUS (MOD/PROP) SB/RC
1	Edge Member FWD	clad2024T42 ASN-A30428618	D52110361202 203 1.4 (0.055)		52-10-00	
1A	Edge Member FWD	clad2024T42 ASN-A30428618	D52110361204 205 1.4 (0.055)	01	52-10-00	A27998P5610
5	Channel Seal	clad2024T42 ASN-A30038677	D52110437200 201		52-10-00	
10	Edge Member AFT	clad2024T42 ASN-A30428618	D52110366202 203 1.4 (0.055)		52-10-00	
10A	Edge Member AFT	clad2024T42 ASN-A30428618	D52110366204 205 1.4 (0.055)	01	52-10-00	A27998P5610
15	Channel Seal	clad2024T42 ASN-A30038677	D52110438200 201		52-10-00	
20	Channel Seal	AS7G06T6	D52110433200 201			
20A	Channel Seal	AS7G06T6	D52110433202 203	03		A27081P5155
25	Channel Seal	AS7G06T6	D52110434200 201			
25A	Channel Seal	AS7G06T6	D52110434202 203	03		A27081P5155
30	Plate Cover	clad2024T42 ASN-A30038677	D52110417200 201			
30A	Plate Cover	clad2024T42 ASN-A30038677	D52110417202 203	03		A20468P1411 A21587P1411
30B	Plate Cover	clad2024T42 ASN-A30038677	D52110417204 205	01		A24990P3906
30C	Plate Cover	clad2024T42 ASN-A30038677	D52110417206 207	01		A26063P4586
30D	Plate Cover	clad2024T42 ASN-A30038677	D52110867200 201	01		A25886P4494
30E	Plate Cover	clad2024T4 ASN-A61298677	D52110831200 201	01		A28893P6583 A28920P6292
35	Rubbing Strip	P.T.F.E ASN-A36348620	D52110418200 201 1.2 (0.047)			B20468P1411
40	Rubbing Strip	P.T.F.E ASN-A36348620	D52110418202 203 1.2 (0.047)			B20468P1411
45	Rubbing Strip	P.T.F.E ASN-A36348620	D52110418204 205 1.2 (0.047)			B20468P1411
50	Rubbing Strip	P.T.F.E ASN-A36348620	D52110418206 207 1.2 (0.047)			B20468P1411
55	Rubbing Strip	P.T.F.E ASN-A36348620	D52110418208 209 1.2 (0.047)			B20468P1411
60	Channel Seal	clad2024T42 ASN-A30428677	D52110436200 201		52-10-00	
65	Plate	clad2024T42 ASN-A30428618	D52110488200 201 1.4 (0.055)			
70	Plate	clad2024T42 ASN-A30428618	D52110489200 201 1.4 (0.055)			
75	Mounting Plate	7175T7351 ASN-A30508791	D52110526200 201			
80	Mounting Plate	7175T7351 ASN-A30508830	D52110527200 201			
85	Fitting	7010T7451 ASN-A30988914	D52110621200 201			
85A	Fitting	7010T7451 ASN-A30988914	D52110621202 203	01		A24389P3597 A24389P3651 ASB52-1057
85B	Fitting	7010T7451 ASN-A30988914	D52110621204 205	01		A27081P5155
90	Angle	clad2024T42 ASN-A30428600	D52110485200 201 1.2 (0.047)			B27998P5610
95	Web	clad2024T42 ASN-A30428600	D52110481200 201 1.2 (0.047)			
100	Angle	clad2024T42 ASN-A30428600	D52110483200 201 1.2 (0.047)			

ASSY Dwg.: D52110360, D52110365, D52110417, D52110419, D52110465, D52110475, D52110830, D52110868

ASSY Dwg.: D52110419, D52110475, D52110621

- distance fastener to fastener from adjacent repair, original doublers, mods or production joints.

NOTE: Refer to Chapter 51-11-13 for more details.

F. Time of repair embodiment:

- date, number of flight cycles and flight hours at time of installation.

G. Allowable damage limit or Repair design:

- SRM chapter, figure and revision of allowable damage limit or repair figure used (i.e. A320 SRM Revision Aug-02 chapter 53-00-12 Fig.202)
- reference to approved source data if not SRM (e.g. Airbus TD and RAS etc) and approved source document itsel
- fastener type (solid, blind, head shape) including material and number of fastener rows
- fastener dimensions (diameter, grip length etc.), rivet pitch, rivet row distance (rounded to min.)
- surface protection
- cold working of rivet holes (if any)
- fastener fit
- original skin thickness at cut out/run out.

H. Type of repair, inspection requirements and/or removal time limit:

- Temporary allowable damage limit
- Permanent allowable damage inspection threshold, interval and NTM method
- Temporary repair limit
- Permanent repair inspection threshold, interval and NTM method
- SRI IIR reference
- RAS reference.

I. Additional comments or SRM deviations

The Repair Data Form is provided to facilitate recording of the above. Data collected on the form is may be required in the future to determine the supplemental inspection requirements or other actions, e.g. future repair assessment as part of a Design Life Goal extension program for example.

Allowable Damage and Repair Data Form	
Questions	Data
General - A/C registration - A/C model type and series - Weight Variant - Manufacturers serial number	
Location - sketch, drawing or photograph (optional) - general location - e.g. fuselage nose section LH Skin or LH Outboard Flap L/E etc - detailed location - e.g. between FR XX and FR YY, Stringer A and Stringer B or 200mm from STA XXX etc - dimensions to existing structural details (distance to stringer, frames etc - PSE or non PSE (optional) - identy surface(s) on which repair is installed (i.e. external or internal)	
Dimension - length, width or diameter, orientation and any additional dimensions defining the damage or repair geometry - size of cut-out if applicable, depth of dent, etc.	
Proximity to adjacent repairs, original doublers, mods or production joints - identify any repair(s) or damage located on the same or adja cent component (e.g. within one stringer, rib or frame bay of the primary repair) - Distance fastener to fastener from adja cent repair, original doublers, mods or production joints	
Time of repair embodiment - date of embodiment - number of flight cycles - number of flight hours	

Allowable Damage and Repair Data Form

Table 1

Allowable damage limit or repair design - SRM chapter, figure and revision of al lowable damage limit or repair figure used (i.e. A320 SRM Revision Aug-02 chapter 53-00-12 Fig.202) - reference to approved source data if not SRM (e.g. Airbus TD and RAS etc) and approved source document itself - reference of fasteners used - fastener type (solid, blind, head shape) including material and number of fastener rows - fastener dimensions (diameter, grip length etc.), rivet pitch, rivet row distance (rounded to min.) - repair material and thickness - edge margin in repair and - surface protection - cold working of rivet holes (if any) - fastener fit (if Hi Lok/ Hi Lite bolts are installed) - original skin thickness at cut out/run out	
Type of repair, inspections requirements and/or removal time limit - Temporary allowable damage limit - Permanent allowable damage inspection threshold, interval and NTM method - Temporary repair limit - Permanent repair inspection threshold, interval and NTM method - SRI IIR reference	
Additional comments or SRM Deviations	

Allowable Damage and Repair Data Form

Table 1

PASSENGER/CREW DOOR

1. General

CAUTION: HIDDEN DAMAGE CAN LEAD TO A FAILURE OF THE REPAIR OR SURROUNDING STRUCTURE.

A. This topic contains allowable damage data for the passenger/crew doors. Allowable damage is damage for which a structural repair is not necessary. You must remove the damage down to a smooth contour and compare with the allowable damage limits given in the relevant Chapter.

B. After rework the damaged area must be checked to make sure that the allowable limits have not been exceeded. When the limits are exceeded a repair is necessary. Refer to the column "ACTION OR REPAIR" in the identification page block.

C. For the general repair procedure refer to :

- Chapter 51-73-00 Repair of Minor Damage
- Chapter 51-74-00 Repair of Corroded Areas

NOTE: For definition of allowable damage refer to Chapter 51-11-11 .

NOTE: For detailed definition of Repair Categories refer to Chapter 51-11-14 .

NOTE: For Damage/Repair Data Recording refer to Chapter 51-11-15.

2. Allowable Damage

CAUTION: FOR ALLOWABLE DAMAGE EFFECTIVITY RELATED TO AIRCRAFT TYPE, REFER TO PARAGRAPH 3, GIVEN IN THE INTRODUCTION OF THE SRM.

CAUTION: OBEY THE ALLOWABLE DAMAGE EFFECTIVITY PER WEIGHT VARIANT AND AIRCRAFT TYPE GIVEN IN RELEVANT PARAGRAPH.

CAUTION: OBEY THE GIVEN INSPECTION INSTRUCTION REFERENCE WHICH LEADS TO THE APPLICABLE INSPECTION PROGRAM DEFINED IN THE STRUCTURAL REPAIR INSPECTIONS, IF NECESSARY.

A. Refer to Figure 101 to determine the allowable damage data for rework limits of the passenger/crew doors.

B. Refer to Figure 106 to determine the allowable damage data for dent limits of the passenger/crew doors.

C. Refer to Para.4.C. to determine the allowable limits for dent dress-out.

D. This allowable damage data caused by lightning strike is applicable to passenger/crew doors.

NOTE: For DESCRIPTION and CRITERIA of allowable damage given in this Chapter, refer to Table 101.

3. Allowable Damage Description/Criteria

DESCRIPTION	CRITERIA/TYPE	PARAGRAPH	REPAIR CATEGORY	INSPECTION INSTRUCTION REFERENCE
Passenger/Crew Door Skin	Rework	4.A.	Refer to diagrams 101 and 102 and Figures 104 and 105	52-10-00-1-002-00
	Dents *	4.B.	Refer to diagram 103	52-10-00-1-001-00
	Dents **	4.B.	Refer to diagram 104	52-10-00-1-001-00
Allowable Limits for Dent Dress-out	Dents	4.C.	B	52-10-00-1-003-00
Skin Plates - Temporary Allowable Damage Limits for Lightning Strike	Burn Marks	4.D.	C	-

Table 101

* Fulfilling "nearness/form" Criterion.

** Out of "nearness/form" Criterion.

NOTE: Refer to each allowable damage paragraph to determine the applicability.

4. Passenger/Crew Doors - Allowable Damage

CAUTION: THIS ALLOWABLE DAMAGE MUST BE INSPECTED AT DEFINED INTERVALS. THE INSPECTION INSTRUCTION REFERENCE IS 52-10-00-1-002-00 AND IS DESCRIBED IN THE STRUCTURAL REPAIR INSPECTIONS (SRI) SECTION OF THE SRM. INFORM YOUR PLANNING DEPARTMENT AND PROVIDE THEM WITH THE NECESSARY INFORMATION.

CAUTION: OBEY THE ALLOWABLE DAMAGE EFFECTIVITY PER WEIGHT VARIANT AND AIRCRAFT TYPE GIVEN IN TABLE 102.

A. Passenger/Crew Doors Skin - Allowable Rework

NOTE: This allowable damage is valid as shown in Table 102.

AIRCRAFT	WEIGHT VARIANT
A320-100	000, 001, 002
A320-200	000, 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016

Effectivity per Weight Variant and/or Aircraft Type

Table 102

NOTE: Refer to paragraph 23 'Weight Variant Information' in the INTRODUCTION of the SRM. Tables in the subparagraphs give necessary data about all weight variants and their required information for allowable damage and repair applicability.

(1) This allowable damage data is applicable for the passenger/crew doors panel.

(2) Compare the rework in accordance with Figure 101.

(a) Allowable reworks for scratches, marks or corrosion on skin for riveted areas (B ≤ 15mm (0.590in.)). (Refer to Diagram 101).

(b) Allowable reworks for scratches, marks or corrosion on skin for unriveted areas (B > 15mm (0.590in.)). (Refer to Diagram 102).

(c) Zoning of excluded areas for 100% rework (on riveted area) (Refer to Figure 102).

(3) This specific allowable damage data is applicable for the passenger/crew doors panel edge.

(4) Compare the rework in accordance with Figure 103.

(a) Allowable reworks for scratches, marks or corrosion on edge skin areas (Refer to Figure 104).

1 Remove damage as per Figure 104.

NOTE: In case of included fasteners check that the remaining thickness after removal of the damage is in accordance with Chapter 51-46-11 .

2 Check damaged area for cracks (detailed visual inspection).

3 Renew surface protection.

(b) Allowable 100% reworks for scratches, marks or corrosion on edge skin areas (Refer to Figure 105).

1 Remove damage as per Figure 105.

2 Check damaged area for cracks (detailed visual inspection).

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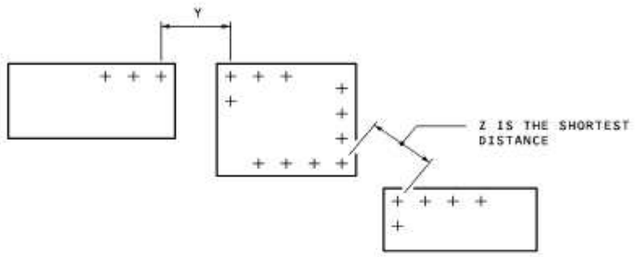
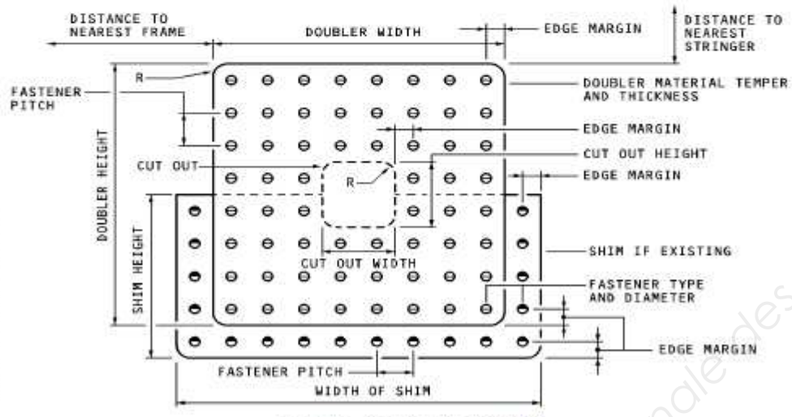


Distance to Adjacent Repairs
Figure 1

NS6 51 11 15 0 ACM0 00 0



Example of Repair Details
Figure 2

D. Passenger/Crew Doors Edge Members Repair

NOTE: This repair principle is applicable to the edge members located at XP70 and XP920.6 of the passenger/crew doors.

(1) Repair Materials

ITEM	NOMENCLATURE	QTY	MATERIAL/REMARKS
1	Doubler	1	Refer to Figure 204
-	Sealant	AR	Material No. 09-013 (Refer to Chapter 51-35-00)
-	Cleaning agent	AR	Material No. 11-003 (Refer to Chapter 51-35-00)
-	Polyurethane primer	AR	Material No. 16-001 (Refer to Chapter 51-35-00)
-	Polyurethane finish paint	AR	Material No. 16-018 (Refer to Chapter 51-35-00)
-	Wash primer	AR	Material No. 16-020 (Refer to Chapter 51-35-00)

(2) Repair Instructions (Refer to Figure 204)

(a) Cut out the damaged area of the edge member and deburr the edges (for cutout limit, refer to Figure 204).

(b) Manufacture the repair part (1) and break sharp edges.

(c) Position and temporarily attach the repair part (1).

(d) Transfer the position of the existing holes, mark and drill the new holes (for rivet pitch and edge distance, refer to Chapter 51-47-00).

(e) Remove the repair part (1) and deburr the holes.

WARNING: CLEANING AGENT (MATERIAL NO. 11-003) IS DANGEROUS.

(f) Clean and degrease all parts with cleaning agent (Material No. 11-003).

WARNING: POLYURETHANE PRIMER (MATERIAL NO. 16-001) IS DANGEROUS.

WARNING: POLYURETHANE FINISH PAINT (MATERIAL NO. 16-018) IS DANGEROUS.

WARNING: WASH PRIMER (MATERIAL NO. 16-020) IS DANGEROUS.

(g) Apply protective treatment (Refer to Chapter 51-23-00):

1 On the repair part (1):

a Chromic Acid Anodizing.

b Polyurethane primer (Material No. 16-001).

c Polyurethane finish paint (Material No. 16-018).

2 On cutout :

a Wash primer (Material No. 16-020).

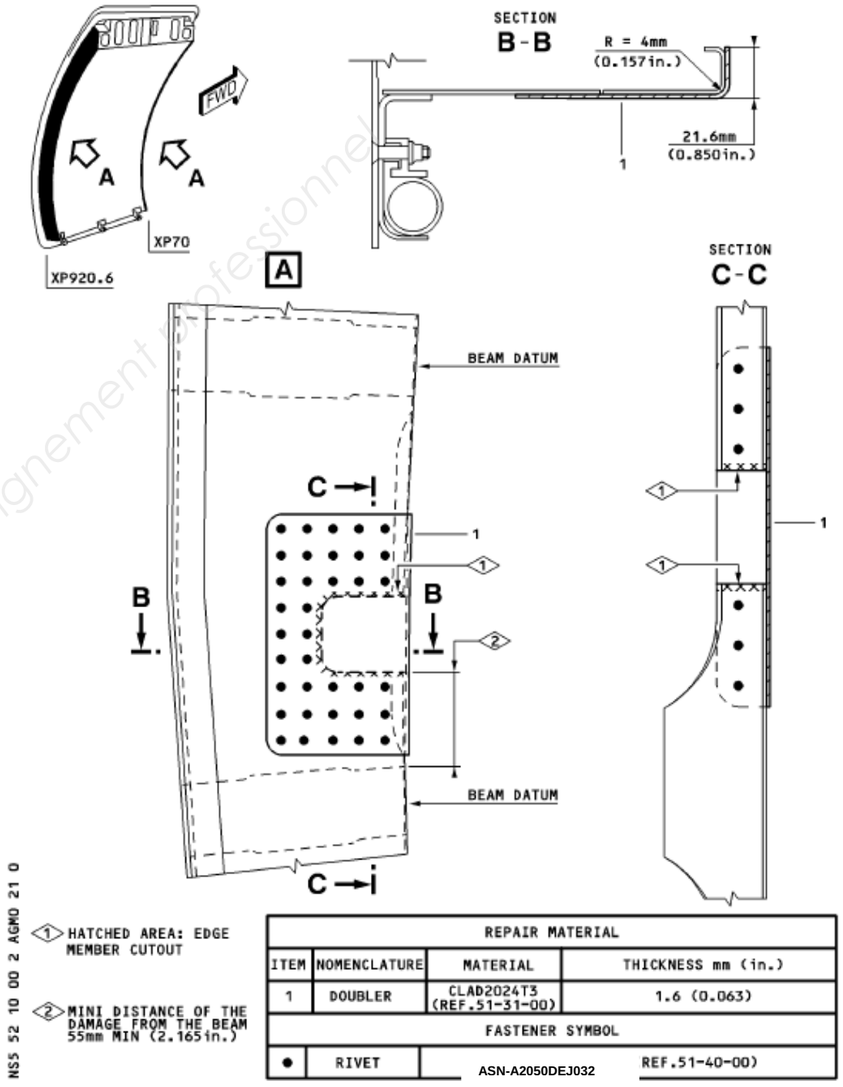
b Polyurethane primer (Material No. 16-001).

3 In the holes, Wash primer (Material No. 16-020).

WARNING: SEALANT (MATERIAL NO. 09-013) IS DANGEROUS.

(h) Install the repair part (1) with interposition of sealant (Material No. 09-013) on contact surfaces (Refer to Chapter 51-76-11).

(i) Install the fasteners with sealant (Material No. 09-013) (Refer to Chapter 51-76-11).



Passenger/Crew Doors Edge Members Repair
Figure 204

ITEM NUMBER	MATERIAL NUMBER	MATERIAL TYPE	REMARKS
12*	09-001A	PS890A - 2	Alternative for PR1422A - 2
13*	09-002A	PS890B - 1/2	Alternative for PR1422B - 1/2
14*	09-002A	PS890B - 2	Alternative for PR1422B - 2
15*	09-001C	PR1440A - 1/2	Alternative for PR1422A - 1/2
16*	09-001C	PR1440A - 2	Alternative for PR1422A - 2
17*	09-002C	PR1440B - 1/2	Alternative for PR1422B - 1/2
18*	09-002C	PR1440B - 2	Alternative for PR1422B - 2
19*	09-008A	PR1221A	Alternative for PR5401K
20	09-007	PR1005L	Alternative for PR1005CH
21	NONE	PR146	Alternative for PR147
21*	09-013	PR1436GA 1/2	
22*	09-016	PR1436GB 2	
24*		PR1436B	Alternative for PR1436GB2

Table 2

B. Repair Material Uses

(1) PR1422A is used to make a seal layer over beads of sealant and over rows of fasteners. You can apply it with a brush.

(2) PR1422B is used to make a bead of sealant where it is necessary. You can apply it with a spatula or an extrusion gun.

(3) PR1431G is used as an interfay sealant. You can apply it with a brush. It has a long application life, but it also takes a long time to cure.

(4) PR147 and PR146 are a one part liquid for brush application. They are used to promote good adhesion of sealants. Special care is necessary when using these materials on unprotected titanium structure. The titanium should only be at normal ambient temperature.

(5) Proseal 860B 1/6 is a quick cure sealant suitable for application with a sealant gun or spatula.

(6) PR5401K is used to make a short term repair of a fuel leak. You can apply it with a brush. It cures very quickly.

(7) PR7422 is used to make a seal over seperate fasteners.

(8) PR1005-L or PR1005CH is used when it is necessary to put a barrier top coat that dries very quickly ovre other sealants.

REF ITEM	MATERIAL	MANUFACTURERS REFERENCE AND/OR SPECIFICATION	SUPPLIER CODE
11-002D	INFORMATION TRANSFERRED TO ITEM 11-002	Ref	
11-003	METHYL-ETHYL-KETONE	Ref TT-M-261 OPEN C Z-23.117 USA TT-M-261	F0107 LOCAL PURCHASE
11-003A	INFORMATION TRANSFERRED TO ITEM 11-003	Ref	
11-004	1.1.1TRICHLOROETHANE (METHYL CHLOROFORM)	Ref GENKLENE USA MIL-T-81533	96717 K6413
11-004A	1.1.1.TRICHLOROETHANE (METHYL CHLOROFORM)	Ref BALTANE	LOCAL PURCHASE
11-004B	1.1.1.TRICHLOROETHANE (METHYL CHLOROFORM)	Ref CHLOROTHENE NU	LOCAL PURCHASE
11-006	METHYL ALCOHOL	Ref MIL-A-6090 OPEN C Z-23.123 GB BS 506:66 USA OM-232-GR-A AMS-3004 MIL-A-6090	LOCAL PURCHASE
11-010	ISOPROPYL ALCOHOL	Ref AIR-3660 OPEN C Z-23.113 F AIR-3660 GB BS 1595:84 USA TT-I-735 GRADE A	20638 F1858 F3528
11-013	COMPRESSOR CLEANING	Ref GTL COMPRESSOR CLEAN (GTE CC) USA MIL-C-85704	
11-013A	AQUEOUS CLEANING COMPOUND	Ref TC-100 USA MIL-C-85704 TYPE 2 OR 2A	OUTM6 DB017
11-026	SOLVANT GENERAL PURPOSE	Ref LOTOXANE GB DEF.STAN-68-148/1	U0698

L. Structure Paints - Material Section 16

REF ITEM	MATERIAL	MANUFACTURERS REFERENCE AND/OR SPECIFICATION	SUPPLIER CODE
16-001	ANTI CORROSION PRIMER (POLYURETHANE)	Ref N-53631/5/062 +HARD-N39/1327 +THIN-N39/3460 NO LONGER AVAILABLE	D8357
16-001A	POLYURETHANE PRIMER	Ref FL-4300 +HARD-FL-4206 +THIN-FL-4207	D6309
16-001B	POLYURETHANE PRIMER	Ref AERUDUR PRIMER S-15/90 +HARD-S-66/8 +THIN-C-25/90 AI TNA 007-10050 002 C Z-12.105	F0351 H0951
16-001C	POLYURETHANE PRIMER	Ref PAC-33 (4355/3600) +HARD-0701/9000 +THIN-0433/9000 AI TN 007 10050 002 C Z-12.105	F1419
16-001D	ANTI-CORROSION PRIMER (POLYURETHANE)	Ref PAC 33 NV AIB AIMS 04-04-001-001	83574 COURTAULDS AEROSPACE COURTAULDS AEROSPACE -AUSTRALIA K5635
16-002	POLYURETHANE TOPCOAT GREY (FOR INTERNAL APPLIC.)	Ref F407-0729 +HARD F210-0731 +THIN F851-808 GB BAEP 3536	90608 F3199 K2054
16-002A	POLYURETHANE TOPCOAT GREY (FOR INTERNAL APPLIC.)	Ref 7D1586-2080 +HARD 7D1586 +THIN 3108	F0351 H0951

REF ITEM	MATERIAL	MANUFACTURERS REFERENCE AND/OR SPECIFICATION	SUPPLIER CODE
16-013	OBSOLETE USE 16-031	Ref N-53628 +HARD-N39/1327 +THIN-N39/3460 D DA-4-653-98	D8357
16-015	FUEL TANK COATING	Ref FINCH 473-13 C Z-12.409	F0351 H0951
16-016	EXTERNAL DECORATION PAINT	Ref AERODUR C21/100 +HARD S66/22R +THIN C25/90S C Z-12.383	F0351 H0951
16-016A	PAINT (COLOR AS REQUIRED)	Ref 9050 +HARD-9051 NO LONGER AVAILABLE	F2613
16-016B	PAINT (COLOR AS REQUIRED)	Ref PU-66 5440/XXXX +HARD-0730/9000 +THIN-0491/9000 C Z-12.380 GB DTD-5580	F1419
16-018	EXTERNAL TOP COAT (POLYURETHANE)	Ref N 53624 +HARD-N39/1327 +THIN-N39/3259 OR N39/3460 NO LONGER AVAILABLE	D8357
16-018A	POLYURETHANE FINISH PAINT (FOR EXTERNAL APPLIC.)	Ref HF-407 +HARD-S-66/8RE +THIN C-25/90S NO LONGER AVAILABLE	F0351 H0951
16-018B	POLYURETHANE FINISH PAINT (FOR EXTERNAL APPLIC.)	Ref 9123 +HARD-007867 +THIN-9124 NO LONGER AVAILABLE	F2613
16-018C	POLYURETHANE FINISH PAINT (FOR EXTERNAL APPLIC.)	Ref PU-66 5440/XXXX OR PU-66 5447/XXXX +HARD-0730/9000 +THIN-0491/9000 C Z-12.380	F1419