



API
Airbus Process Instruction
Stripping of electrical cables

Published and distributed by:
AIRBUS Operations S.A.S.
MANUFACTURING-ENGINEERING DIRECTORATE
31707 BLAGNAC Cedex
FRANCE

Contents

1	General	3
1.1	Purpose	3
1.2	Scope and limitations	3
1.3	Normative references	3
1.4	Definition	5
1.5	Specificities	5
2	Means to be employed and shopfloor/facilities conditions	6
2.1	Products and materials	6
2.2	Tools, machines and equipment	6
2.2.1	Cutting tools	6
2.2.2	Stripping tools	7
2.2.3	Accessories	18
2.3	Shopfloor/facilities conditions	18
3	Process	19
3.1	Preparation of the work	19
3.1.1	Cutting	19
3.1.2	Geometrical reconfiguration	19
3.2	Operations description	19
3.2.1	General requirment	19
3.2.2	Stripping with hand tools	20
3.2.3	Stripping with automatic tools	21
3.2.4	Stripping with thermal tools	22
3.2.5	Stripping of aluminum cables excepted cable ABS0949 AD	22
3.2.6	Stripping of coaxial cables	22
3.2.7	Stripping of special cables	22
3.3	Completion	22
3.4	Key process parameter	22
3.5	Implementation	24
4	Process quality assurance and follow-up	24
4.1	Serial production inspections	24
4.1.1	Results to be obtained	24
4.1.2	Pre-operation check	24
4.1.3	Check during stripping	24
4.1.4	Check after stripping	24
4.2	Quality control and monitoring	27
4.3	FOD Foreign Object Damage	28
5	Environment, health and safety	28
6	Appendices	28
	APPENDIX A - Requirements for thermal stripping tool qualification	29
1.	Scope	29
2.	Key elements to define	29
3.	Samples preparation	29
4.	Checking and monitoring methode	29
5.	Results	30
6.	Maintenance	30
	Glossary	31
	Record of revisions	32

1 GENERAL

1.1 PURPOSE

This Airbus Process Instruction defines the methods and tools for the stripping process of electrical cables.

1.2 SCOPE AND LIMITATIONS

The processes described in this document are applied to aircraft STANDARD and COMMERCIAL ELECTRICAL INSTALLATIONS during the production phase at the manufacturers and the service life at the airlines.

These processes condition the qualification of these installations. They are therefore the only ones allowed.

1.3 NORMATIVE REFERENCES

Only references cited in the document are listed hereafter. The latest issue of the publication referenced shall be used.

ABS0053	Aerospace series - Cable, multicore - 2-core, twisted, type PL, +260°C, fire resistant.
ABS0124	Aerospace series - Cable VR, 5 cores type DK, twisted screened and sheathed 260°C.
ABS0323	Aerospace series - Cable, type VJ, four core twisted, screened (polyimide-PTFE insulation +260°C max.).
ABS0386	Aerospace series - Cable, WF, 2 cores twisted screened, kapton jacketed.
ABS0682	Aerospace series - Cable, MG, 7 cores, twisted, screened and sheathed.
ABS0710	Cable, coaxial, type WQ.
ABS0949	Aerospace series - Cables, aluminum conductors, gauges 24 to 000, UV laser printable.
ABS0972	Aerospace series - Cable, electrical, quadrax, for digital data transmission, +200°C max.
ABS1354	Aerospace series - Cables, aluminum conductors, gauges 24 to 000, ink-jet printable and multicore assembly.
ABS1356	Aerospace series - Cables, aluminum conductors, gauges 24 to 10, VN family, screened (spiral) and jacketed, UV laser printable.
ABS1503	Aerospace series - Cable, electrical, shielded quad, for digital data transmission, severe EMI conditions, +200°C.
ABS1527	Aerospace series - Cable, extensible for sliding window
ABS1529	Aerospace series - Cable, extensible for tablet
ABS1580	Aerospace series - Shielded quad cable, Cable, electrical, for digital data transmission, severe EMI conditions, +260°C.
ABS1704	Aerospace series - Cable, thermocouple
AIPI07-01-001	Airbus Process Instruction – Manufacturing and installation of cable harnesses
AIPI07-01-005	Airbus Process Instruction - Making of shielding ends on electrical bundles.
AIPI07-01-007	Airbus Process Instruction - Shielding pick-up with solder sleeves ASNE0160 and ABS0237.
AIPI07-02-002	Airbus Process Instruction - Principles of use of special cable ends.
AIPI07-04-031	Airbus Process Instruction - General requirements for the crimping of 24 to 12 size aluminum electrical cables ABS0949 (AD series) onto contacts ABS1380 and ABS1381 with multi-gauges crimping tools.
AIPI07-07-001	Airbus Process Instruction - Installation of heat shrink tubing and sleeves.
AIPS07-02-001	Airbus Process Specification - Stripping of electrical cables.
ASNE0259	Cable - Bus, sperry unit (+150°C).
ASNE0260	Cable - single-wire, unscreened BF (PTFE insulation +200°C max.).
ASNE0261	Cable - single-core, unscreened, insulated, type CF, (polyimide insulation +200°C).
ASNE0262	Cable - single-core, unscreened, insulated, type DK, (polyimide- PTFE insulation +260°C max.).

ASNE0263	Cable - multicore, type PF, twisted, screened (+200°C max.).
ASNE0264	Cable - 2-wire, twisted, type PF - (200°C max.).
ASNE0265	Cable - 2-wire, twisted, Type PG – (260°C max.).
ASNE0266	Cable - 3-wire, twisted, type QF - (200°C max.).
ASNE0267	Cable - 3-wire, twisted, type QG - (260°C max.).
ASNE0268	Cable - 4-wire, twisted, type RF - (200°C max.).
ASNE0269	Cable - 4-wire, twisted, type RH - (260°C max.).
ASNE0270	Cable - single-core, screened, insulated, type SJ, (polyimide insulation +200°C).
ASNE0271	Cable - single-core, screened, insulated, type ST, (polyimide- PTFE insulation +260°C max.).
ASNE0272	Cable - 2-wire, twisted screened, insulated, type TK, (polyimide insulation +200°C).
ASNE0273	Cable - 2-wire, twisted, screened insulated, type TT, (polyimide- PTFE insulation +260°C max.).
ASNE0274	Cable - 3-core, screened, insulated, type UD, (kapton insulation +200°C).
ASNE0275	Cable - 3-core, twisted, screened insulated, type UE, (polyimide-PTFE insulation +260°C).
ASNE0286	Cable - multicore, type YF, twisted, screened (260°C max.).
ASNE0287	Cable - multicore, type HA, twisted, screened (260°C max.).
ASNE0289	Cable - type YZ, 10-core, (+200°C max.).
ASNE0290	Cable - Coaxial, bi-conductor, type XM, PTFE insulation (+200°C max.).
ASNE0291	Cable - transmission, 130 Pf/m, type SW (200°C max.).
ASNE0292	Cable - multicore, screened, type HC (260°C max.).
ASNE0293	Cable - coaxial, double screening, code XF, RG 400/U (+200°C.).
ASNE0299	Cable - Type HD, Multiconductor.
ASNE0300	Cable - multiconductor, type HG (+200°C).
ASNE0349	Cable - triaxial code WC, T° 250°C.
ASNE0406	Cable - coaxial, double screening, WD type (+200°C max.).
ASNE0409	Cable - single-core, unscreened, type BG, (PTFE insulation +260°C max.).
ASNE0437	Cable - single-core, unscreened, type DL, (+260°C, resistance to fire).
ASNE0438	Cable - aluminum, nickel-plated, type YV, polyimide insulation.
ASNE0471	Cable - aluminum, nickel-plated, three-wire, type QP.
ASNE0479	Twinaxial bus cable, double braid, 77 Ohms, type WJ.
ASNE0626	Cable - extension, for thermocouples (1YB – 1YC).
ASNE0634	Cable coaxial – Non-magnetic , type WH.
ASNE0690	Cable coaxial - double braid, 75 Ohms, +200°C max, type WL.
ASNE0692	Cable coaxial - 50 Ohms, +200°C max, type WN.
ASNE0738	Cable - Coaxial, double screening, type WR, (+200°C max.).
ASNE0807	Electrical cable, for digital data transmission 120 Ω - Twin axial single braid / 200°C max. - Code WX.
EN2266	Aerospace series - Cables, electrical, for general purpose - Operating temperatures between –55°C and 200°C.
EN2267	Aerospace series - Cables, electrical for general purpose - Operating temperatures between –55°C and 260°C.
EN2346	Aerospace series - Cable, electrical, fire resistant - Operating temperatures between - 65 °C and 260°C.
EN2713	Aerospace series - Cables, electrical, single and multicore for general purpose - Operating temperatures between –55°C and 200°C.
EN2714	Aerospace series - Cables, electrical, single and multicore for general purpose - Operating temperatures between –55°C and 260°C.
EN3375	Aerospace series - Cables, electrical, for digital data transmission.
EN4604	Aerospace series - Cable, electrical, for signal transmission.
EN4608	Aerospace series - Cable, electrical, fire resistant - Single and twisted multicore assembly, screened (braided) and jacketed - Operating temperatures between – 65°C and 260°C.
EN4681	Aerospace series - Cables, electric, for general purpose, with conductors in aluminum or copper-clad-aluminum.
NSA935012	Cable - unscreened, type AKA/AKB, kapton insulation, (+200°C max.).
NSA935130	Cable - unscreened, DE, kapton PTFE insulation, (+260°C max.).

NSA935131	Cable - unscreened, type DG, polyimide - glass - PTFE insulation (+260°C max.).
NSA935132	Cable - unshielded, DJ, fireproof, silicon, PTFE, glass insulation, max +260°C.
NSA935306	Cable - Two-core, type YK, special, vibro meter (260°C max.).
NSA935307	Cable - Thermocouple extension, nickel-chromium / nickel-aluminum, type YT, PTFE (260°C max.).
NSA935308	Cable - aluminum, type YU, kapton insulation, +150°C max.
NSA935344	Cable - coaxial, code XE, PTFE insulation, (+250°C max.).
NSA935346	Cable - coaxial, RG 141A/U code XG, PTFE insulation, (+250°C max.).
NSA935354	Cable - Coaxial, code XR, PTFE, Glass Silk, +250°C max.
NSA935355	Cable - Coaxial, PTFE/Glass Silk, code XS, RG 225/U (+200°C max.).
NSA935357	Cable - coaxial, bi-conductor, code XU, PTFE insulation (-55°C to +200°C).
NSA935358	Cable - coaxial, 50 Ohms, code WA, Polyimide insulation, PTFE (+200°C max.).
NSA935359	Cable - coaxial, 50 Ohms, code WB, Polyimide PTFE insulation, (+200°C max.).
NSA937502	Tubing - Heat shrinkable, semi-rigid.
NSA939606-041	Electrical wire.

1.4 DEFINITION

The stripping operation consists to remove the insulator from the conductor over a length defined with tolerances without damaging the core strands or the shielding and without reducing the original performances of the cable.

Note: The stripping length depends on the length required to connect the conductor into the end component (this length is given in the documents relevant to the use of each end component).

1.5 SPECIFICITIES

N/A

2 MEANS TO BE EMPLOYED AND SHOPFLOOR/FACILITIES CONDITIONS

General use (excepted for Airlines):

All new stripping tools (excepted thermal tools) shall be qualified by the Airbus method department.



The thermal stripping is only qualified with the HOTweezers tool or the FTM tool (refer to §2.2.2.4) for cables listed in the Table 7.

For the use of thermal stripping with others cables and/or tools, the test plan in Appendix A shall be realized. The shop, who realizes the test plan, is responsible of the qualification.

Airlines use only:

All new stripping tools shall be qualified by the Airbus method department.

2.1 PRODUCTS AND MATERIALS

The cables can be single-wire or multiple-wire conductors, shielded conductors or coaxial conductors.





Note: Shielded conductors shall be stripped as single conductors after the stripping of the shielding of these cables and the cutting to length.

2.2 TOOLS, MACHINES AND EQUIPMENT

2.2.1 CUTTING TOOLS

Unless specified in specific AIPI, the tools shall be used in the following order:

Table 1: Cutting tools

Cutting tools	Photos
IDEAL T-cutter 45-074	
Weidmüller KT8/900265	
IDEAL T-cutter 45-260.	
IDEAL T-cutter 45-123	
Or equivalent	

2.2.2 STRIPPING TOOLS

2.2.2.1 General

Several types of tools can be used, including:

- Hand tools §2.2.2.2.
- Automatic tools §2.2.2.3.
- Thermal tools §2.2.2.4.

2.2.2.2 Hand tools

2.2.2.2.1 Pliers

Each plier has a set of blades with several indents. Each of these indents corresponds to a cable gauge. When a change of the dies is necessary, always change both parts. After changing the dies, samples shall be made and checked in accordance with §4.

Table 2: Stripping pliers

Blade ref.	Complete tool reference	Color of handles	Ref. of jaw set ^{*1}	Cable gauge
DAVUM TMC-W1	DAVUM TMC-PCW1	Black	TMC-MP3	26 to 16
DAVUM TMC-W2	DAVUM TMC-PCW2	Grey	TMC-MP4	14 to 10
DAVUM TMC-W2810	DAVUM TMC-PCW2-810	Green	TMC-MP4	8 and 10
DAVUM TMC-W3	DAVUM TMC-PCW3 ^{*2}	Green	TMC-MP3	26 to 16
	DAVUM TMC-PCW3 BT/AD1 with wire stop TMC-BT/AD1	Violet		24 to 16
DAVUM TMC-W4	DAVUM TMC-PCW4	Green	TMC-MP4	14 to 10
	DAVUM TMC-PCW4 BT/AD2 with wire stop TMC-BT/AD2	Violet		
DAVUM TMC-W7	DAVUM TMC-PCW7	Beige	TMC MP3	24 to 18
DAVUM TMC-W8	DAVUM TMC-PCW8	Beige	TMC-MP4	16 to 14
DAVUM TMC-WDZ10	DAVUM TMC-PCWDZ10	Brown	TMC-MP4	10
DAVUM TMC-WDZ1216	DAVUM TMC-PCWDZ12-16	Brown	TMC-MP3	16 and 12
IDEAL 45-1773-1	IDEAL 45-1773	Red	LB-198	24 to 16
IDEAL 55-1773-1	IDEAL ERGO 55-1773			
IDEAL 45-1774-1	IDEAL 45-1774	Red	LB-197	14 and 12
IDEAL 45-1939-1	IDEAL 45-1939	Red	LB-197	14 to 10
IDEAL 45-1987-1	IDEAL 45-1987	Black	LB-198	26 to 16
IDEAL 45-2618-1	IDEAL 45-2618	Red	LB-198	26 to 16
IDEAL 45-2824-1	IDEAL 45-2824-9 with wire stop 45-2824-5	Violet	LB-731	26 to 16
	IDEAL 45-2834 ^{*2}	Green		
IDEAL 45-2825-1	IDEAL 45-2825-9 with wire stop 45-2825-5	Violet	LB-730	14 to 10
	IDEAL 45-2835	Green		
IDEAL 45-2828-1	IDEAL 45-2829	Green	LB-731	26 to 16
IDEAL K6492	IDEAL 45-403 with wire stop LB-840 or LB-825 (for quadrax if required)	-	-	24
IDEAL K6499	IDEAL 45-403	-	-	24
IDEAL L-4421	IDEAL 45-092	Blue	LB-721	24 to 16
IDEAL L-5211	IDEAL 45-171	Black	LB-198	26 to 16
IDEAL L-5563	IDEAL 45-174	Black	LB-198	26 to 16
-	DAVUM TMC NN031 M380 with wire stop (old ref.: TS031M380)	-	-	24
-	NO NIK NN031	Tan	-	24
-	NO NIK NN023	Brown	-	26 to 24
-	NO NIK 034	Salmon	-	22

Blade ref.	Complete tool reference	Color of handles	Ref. of jaw set	Cable gauge
-	EXCELTA 26	-	-	26
-	EXCELTA L24	-	-	24
	EXCELTA L24M380 (with wire stop)	-	-	24
-	EXCELTA H24	-	-	24
HA-2406	65-0150 (body)	Green	-	24
HA-2223	65-0150 (body)	Green	-	24

*¹ Each shop shall define the jaws in order to avoid damages on the cable and to be in accordance with acceptance criteria.





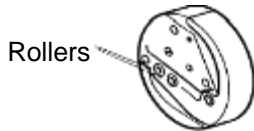

*² The DAVUM pliers, TMC-PCW3, can be equipped with blades and/or jaws of the IDEAL pliers, IDEAL 45-2834, and vice-versa. Nevertheless, the both parts of the blades/jaws shall be provided of the same supplier.

Table 3: Jaw sets composition

Ref. of sets of jaws	Ref. of mobile jaws	Ref. of fixed jaws
IDEAL LB-197	LB-5212	L-5215
IDEAL LB-198	LB-5212	L-5217
IDEAL LB-721	LB-718	LB-719
IDEAL LB-730	LB-727	LB-728
IDEAL LB-731	LB-727	LB-729

2.2.2.2.2 Other stripping pliers

Table 4: Other stripping pliers

Stripping tools	Photos
IDEAL 45-403 pliers with IDEAL K6499 or K6492 blades.	
IDEAL 45-163 IDEAL 45-164	
Scalpel	
DULAC & NOZIERES 9922801600 Gauge 4 to 0000	
DULAC & NOZIERES 9922801500 Gauge 8 to 6	
HUBER & SUHNER 74_Z-0-0-473 74_Z-0-0-478	


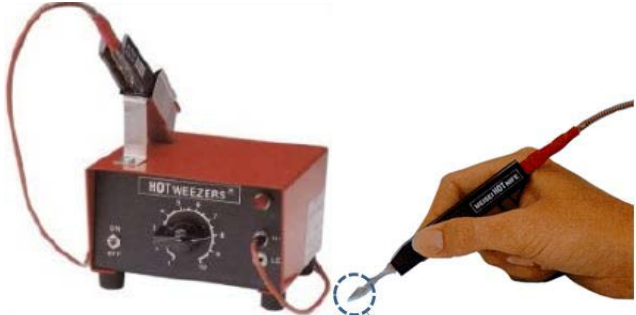
2.2.2.3 Automatic tools

Table 5: Automatic tools

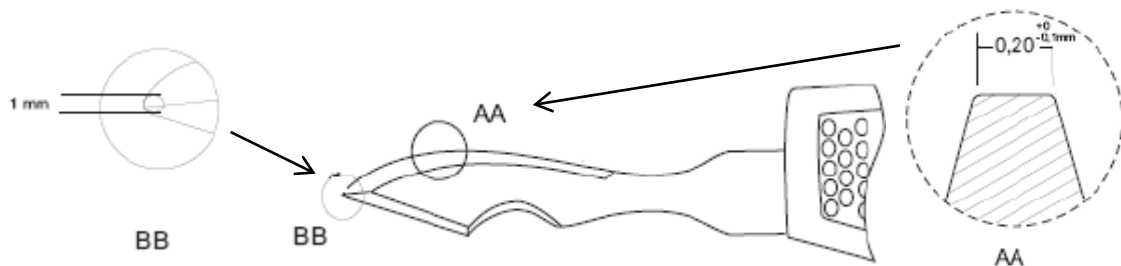
Automatic tools	Photos
<p>SCHLEUNIGER:</p> <ul style="list-style-type: none"> - 207 - CS5400 - CS5500 - MP257 - MP8015 - US2500 - US2550 	<div>    </div>
KOMAX 48R	
<p>SERIES 4 Ltd.</p> <ul style="list-style-type: none"> - FE0400 	
<p>Electro-pneumatic machine</p> <p>IDEAL STRIPMASTER 954</p>	
<p>Pneumatic machine</p> <p>DAVUM TMC W200</p> <p>DAVUM TMC WIP220</p>	
<p>Laser Wire stripper</p> <p>Laselec</p> <p>Sylade 7 bench top</p>	

2.2.2.4 Thermal tool

Table 6: Thermal tool

Tools	Power supply	Blades	Photos
FTM technologies	BDT1 BDT3A	-	
For the FTM tool, each shop shall define the pliers and the electrodes in order to avoid damages on all parts of the cable (outer insulation, shielding ...). The stripping shall be also in accordance with the acceptance criteria.			
HOTweezers supplied by MEISEI CORP	M10	2A HOTnife	

Note: The blade 2A HOTnife shall be modified in order to prevent the notch of braid strands during stripping.



Modification 1:
Cut the tip: diameter 1mm

Modification 2:
Reduce the edge of the blade all around the periphery
Angles shall be rounded.

Figure 1: Blade 2A HOTnife modification

2.2.2.5 Association: cables-stripping tools

The table below lists the tool(s) to be used for each type of cable.

Table 7: Cables stripping tool

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
AD	ABS0949	24 to 16				DAVUM TMC-W3 used with wire stop IDEAL 45-2824-1 used with wire stop		
		14 to 10				DAVUM TMC-W4 used with wire stop IDEAL 45-2825-1 used with wire stop		
		8 and 6				Scalpel + tube (ROSSI AERO RA153009)		HOTweezers
		4 to 000				Scalpel + tube (ROSSI AERO RA153009)		HOTweezers
ADB ADC ADD ADE	ABS1354	24 to 000	See ABS0949 AD					
AKA	NSA935012	24 to 16				IDEAL 45-1987-1		
AZ AZB	EN4681-005-006B	3, 1 and 00				Scalpel + tube (ROSSI AERO RA153009)		
BF	ASNE0260	24 to 18				IDEAL 45-1773-1 DAVUM TMC-W1	SCHLEUNIGER US2550 (AWG 24) with SA422588 blades SCHLEUNIGER US2500 with D4-1300B1-13703 (AWG 22), D4-1300B1-13702 (AWG 20), D4-1300B1-13701 (AWG 18) blades	
BG	ASNE0409	24				IDEAL 45-2618-1		
CF	ASNE0261	24 to 16				DAVUM TMC-W1 DAVUM TMC-W3 IDEAL 45-1773-1 IDEAL 45-2824-1	SERIES 4 Ltd. FE0400 SCHLEUNIGER US2500 with D4-1300B1-1729 blades (AWG 24)	
		14 to 12				IDEAL 45-1774-1	SERIES 4 Ltd. FE0400	
		14 to 10				DAVUM TMC-W2 DAVUM TMC-W4 IDEAL 45-1939-1 IDEAL 45-2825-1		
		10 and 8				DAVUM TMC-W2810		
DE	NSA935130	24 to 16				IDEAL L-5563		

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
DG	NSA935131	10 to 0000				Scalpel		
DJ	NSA935132	22 to 12				IDEAL L-4421		
		10 to 00				Scalpel		
DK	ASNE0262	24 to 16				DAVUM TMC-W1 DAVUM TMC-W3 IDEAL 45-1773-1 IDEAL 45-2824-1		
		14 to 12				IDEAL 45-1774-1		
		14 to 10				DAVUM TMC-W2 DAVUM TMC-W4 IDEAL 45-1939-1 IDEAL 45-2825-1		
		10 and 8				DAVUM TMC-W2810		
DL	ASNE0437	22 to 18				DAVUM TMC-W7 IDEAL L-4421		
		16				DAVUM TMC-W8		
DM	EN2267-008A	24 to 16				DAVUM TMC-W1 DAVUM TMC-W3 IDEAL 45-1773-1 IDEAL 45-2824-1		
		14 to 10				DAVUM TMC-W2 DAVUM TMC-W4 IDEAL 45-1939-1 IDEAL 45-2825-1		
		10 and 8				DAVUM TMC-W2810		
		6				Scalpel		
DR DRB DRC DRD	EN2267-010A - 009B -009C -009D	26 to 16				DAVUM TMC-W3 IDEAL 45-2824-1 IDEAL 45-2828-1	SCHLEUNIGER US2500 with D4-1300B1-1729 (AWG 24), D4-1300B1-13703 (AWG 22), D4-1300B1-13702 (AWG 20), D4-1300B1-13701 (AWG 18), D4-1300B1-9246 (AWG 16) blades DAVUM WIP200 (AWG 26 to 18) with TMC-W5 or TMC- W10 blades Ideal Stripmaster 954 with blades HA2608 (AWG 26), HA2412 (AWG 24), HA2223 (AWG 22),HA2022 (AWG 20),HA1812 (AWG 18), HA1603 (AWG 16)	

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
DR DRB DRC DRD	EN2267-010A - 009B -009C -009D	14 to 10 8 to 6 4 to 2				DAVUM TMC-W4 IDEAL 45-2825-1 IDEAL 45-163 IDEAL 45-164	DAVUM WIP220 and WIP200 with TMC- W4 blades	 HOTweezers HOTweezers
DW DWB DWC	EN2346-005A -005B -005C	24 24 to 18 16 to 14 10				EXCELTA L24 HA-2406 DAVUM TMC-W7 DAVUM TMC-W8 Scalpel		
DZ DZB DZC	EN2267-012A - 011B -011C	16 and 12 10			FTM (only for DZ cables)	DAVUM TMC-WDZ1216 DAVUM TMC-WDZ10		
GJ	EN2714-011A	DM24 to DM10	Scalpel			HOTweezers	See EN2267-008A DM	
GPA GPB GPC	EN4608-004A -004B -004C	DW22 to DW14	Scalpel		HOTweezers	See EN2346-005A DW		
GPB	EN4608-005B	2 x DW24	Scalpel			See EN2346-005A DW		
HA	ASNE0287	5 x DK12	Scalpel			See ASNE0262 DK		
HB	ASNE0263	1 x XE 4 x DK24	Scalpel			See NSA935344 XE and ASNE0262 DK		
HC	ASNE0292	1 x XE 10 x DK24	Scalpel	SCHLEUNIGER MP257 SCHEUNIGER CS5400		See NSA935344 XE and ASNE0262 DK		
HD	ASNE0299	4 x CF24 + CF22 + RG316	See AIP107-02-002					
HE	ASNE0259	2 x 24	Scalpel			Scalpel		
HG	ASNE0300	4 x XM 1 x UD24	Scalpel	SCHLEUNIGER MP257 SCHEUNIGER CS5400		See ASNE0290 XM and ASNE0274 UD		
HQ	ABS1704	2 x 24	Scalpel	Laselec - Sylade 7	FTM	NO NIK NN031 IDEAL 45-2824-1 IDEAL L5211-1 HA-2406		
HX	ABS1527	8xDR24+6xDR20+ 3xDR18 +1xDR16	Scalpel			See EN2267-010A DR		
HY	ABS1529	5 x DR24 + 1 x DR18 + 2 x MLB24	Scalpel			See EN2267-010A DR and EN2714-013B MLB		
KB	ABS0972	4 x 24	IDEAL 45-403 with blades K6499	Laselec - Sylade 7	FTM	DAVUM TMC TS031M 380 EXCELTA L24M380 NO NIK NN031 EXCELTA L24 HA-2223		

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
KD	ABS1503 EN3375-008	4 x 24	IDEAL 45-403 with blades K6499	Laselec - Sylade 7		DAVUM TMC TS031M 380 EXCELTA L24M380 NO NIK NN031 EXCELTA L24 HA-2223		
KH	ABS1580	4 x 24	IDEAL 45-403 with blades K6499			DAVUM TMC TS031M 380 NO NIK NN031		
KL	EN3375-011	4 x 24	IDEAL 45-403 with blades K6499 Scalpel	Laselec - Sylade 7		DAVUM TMC TS031M 380 EXCELTA L24M380 NO NIK NN031 EXCELTA L24 HA-2223		
KW	EN4604-009		HUBER & SUHNER 74_Z-0-0-478 Scalpel ¹	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	FTM	HUBER & SUHNER 74_Z-0-0-478 Scalpel ¹	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	
KX	EN4604-010		HUBER & SUHNER 74_Z-0-0-473	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	FTM	HUBER & SUHNER 74_Z-0-0-473	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	
LF	ABS0963-003		See AIPI07-11-002, AIPI07-11-003, AIPI07-11-004 and AIPI07-11-008					
LG	ABS2293		See AIPI07-11-003 and AIPI07-11-008					
MG	ABS0682	7 x CF24	Scalpel			See ASNE0261 CF		
MH	EN2714-011B	2xDM24 to 2x DM14	Scalpel		HOTweezers	See EN2267-008A DM		
MJ	EN2714-012E	5 x DM24 to 5 x DM10	Scalpel			See EN2267-008A DM		
MLA MLB MLC MLD	EN2714-013A -013B -013C -013D	DR26 to DR16 DR16 to DR10	Scalpel	Laselec - Sylade 7	HOTweezers	See EN2267-010A DR		
					FTM			
MME MMG	EN2714-014E -014G	DR26 to DR10	Scalpel		FTM	See EN2267-010A DR		
PF	ASNE0264 EN2267-003B	2 x CF24 to 2 x CF10	See ASNE0261 CF					
PG	ASNE0265	2 x DK24 to 2 x DK8	See ASNE0262 DK					
PL	ABS0053	2 x DL22	See ASNE0437 DL					
PN	EN2267-007B	2xDM24 to 2xDM6	See EN2267-008A DM					
QF	ASNE0266 EN2267-003C	3 x CF24 to 3 x CF10	See ASNE0261 CF					

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
QG	ASNE0267	3 x DK24 to 3 x DK8	See ASNE0262 DK					
QL	EN2267-007C	3xDM24 to 3xDM6	See EN2267-008A DM					
QP	ASNE0471	3 x YV06				See ASNE0436 YV		
RF	ASNE0268 EN2266-003D	4 x CF24 to 4 x CF10	See ASNE0261 CF					
RH	ASNE0269	4 x DK24 to 4 x DK8	Scalpel			See ASNE0262 DK		
RK	EN2267-007D	4x DM24 to 4x DM6	See EN2267-008A DM					
SJ	ASNE0270 EN2713-007A	CF24 to CF14 CF26 to CF10	Scalpel		HOTweezers	See ASNE0261 CF		
ST	ASNE0271	DK24 to DK16	Scalpel			See ASNE0262 DK		
SW	ASNE0291	24	Scalpel			See ASNE0261 CF		
TK	ASNE0272 EN2713-007B	2 x CF24 to 2 x CF12	Scalpel		HOTweezers	See ASNE0261 CF		
		2 x CF24 to 2 x CF10				DAVUM TMC TS031M		
TT	ASNE0273	2 x DK24 to 2 x DK14	Scalpel			See ASNE0262 DK		
UD	ASNE0274 EN2713-007C	3 x CF24 to 3 x CF14	Scalpel		HOTweezers	See ASNE0261 CF		
UE	ASNE0275	3x DK24 to 3xDK16	Scalpel			See ASNE0262 DK		
UU	EN2714-011C	3x DM24 to 3xDM14	Scalpel		HOTweezers	See EN2267-008A DM		
VJ	ABS0323	4 x DK20	Scalpel			See ASNE0262 DK		
VL	EN2713-003D	4 x CF24 to 4 x CF14	Scalpel		FTM	See ASNE0261 CF		
VNA VNB VNC VND	ABS1356	AD24 to AD16	Scalpel	Laselec - Sylade 7	HOTweezers FTM	See ABS0949 AD		
		AD16 to AD10						
VR	ABS0124	5 x DK18 to 5 x DK14	Scalpel			See ASNE0262 DK		
VV	EN2714-011D	4x DM24 to 4xDM10	Scalpel		HOTweezers	See EN2267-008A DM		

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
WA WB WC WD	NSA935358 NSA935359 ASNE0349 ASNE0406 EN4604-007		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R (for WD only)	FTM (only for WD cables)	Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R (for WD only)	
WF	ABS0386	2 x 24	IDEAL 45-403 with blades K6492 Scalpel	Laselec - Sylade 7	HOTweezers FTM	NO NIK NN031 EXCELTA H24 IDEAL L-5211 HA-2223		
WH	ASNE0634		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
WJ	ASNE0479	2 x 24	IDEAL 45-403 with blades K6499 Scalpel		FTM	NO NIK NN031 EXCELTA L24 HA-2406		
WL	ASNE0690 EN4604-005		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	FTM	Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
WN	ASNE0692 EN4604-007		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	FTM	Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	
WQ	ABS0710	24	Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
WR	ASNE0738		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
WX	ASNE0807	2 x 26	IDEAL 45-403 with blades K6492 Scalpel	Laselec - Sylade 7	HOTweezers	NO NIK NN023 EXCELTA 26		
WZ	EN4604-003		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	
XE	NSA935344		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
XF	ASNE0293		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 or KOMAX 48R	



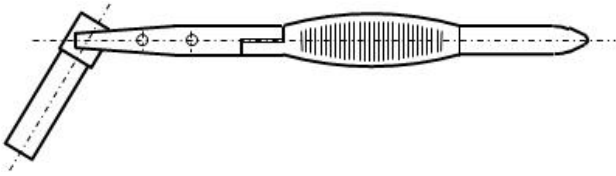

Cable code	Cable	Cable gauge / composition	Outer insulation			Conductor insulation		
			Hand tools/blades	Automatic tools/blades	Thermal tools	Hand tools/blades	Automatic tools/blades	Thermal tools
XG	NSA935346		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
XM	ASNE0290	2 x 24	Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5 Laselec - Sylade 7	FTM	NO NIK NN031 EXCELTA H24 HA-2223	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
XR	NSA935354		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
XS	NSA935355		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
XU	NSA935357		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5		Scalpel	SCHLEUNIGER CS5400 or equivalent SCHLEUNIGER tool of the Table 5	
YF	ASNE0286	1 x DK18 5 x DK14	Scalpel			See ASNE0262 DK		
YK	NSA935306	2 x 22	Scalpel	SCHLEUNIGER MP8015		DAVUM TMC-W3 ² IDEAL 45-2824-1	SCHLEUNIGER MP8015	
YT	NSA935307	1 x YB22 +1 x YC22	Scalpel			IDEAL L-5211		
YU	NSA935308	4 to 0000	Scalpel			Scalpel		
YV	ASNE0438	6	DULAC & NOZIERES 9922801500			Scalpel + tube (ROSSI AERO RA153009)		
		4 to 00	DULAC & NOZIERES 9922801600			Scalpel + tube (ROSSI AERO RA153009)		
YZ	ASNE0289	2 x 2 x TK22 + 2 x 3 UD22	Scalpel			See ASNE0272 TK and ASNE0274 UD		
	NSA939606-041	26				IDEAL 45-2618-1		
	ASNE0626	1xYB22+ 1xYC22				NO NIK 034		

¹ The scalpel cannot be used with the connector EN4652 (refer to AIPI07-05-078).

² Remove the anti-signal PTFE tape with ABISOFIX tool.

2.2.3 ACCESSORIES

Table 8: Accessories

Accessories	Photos
Rubber grip IDEAL 45-333	
Tube tool ROSSI AERO RA153009 or Labinal D22-002-000 tool (Size 10 to 04 - side 1) ROSSI AERO RA153009 tool (Cable YV - side 2)	
Guiding tool LABINAL D22-029	
ABISOFIX tool type No. A3, Head MK3 and Power supply PS42 SERIES 4 Ltd	
Or equivalent	

2.3 SHOPFLOOR/FACILITIES CONDITIONS

N/A.

3 PROCESS

3.1 PREPARATION OF THE WORK

3.1.1 CUTTING

Before stripping, the cable shall be cleanly cut to length perpendicular to the longitudinal axis of the cable. The cable shall not be damaged during the operation.

Note 1: There is a specific process of cutting for laser-marked ABS0949 AD cables. Refer to the AIPI07-04-031.

Note 2: The aluminum cable shall be shortened (length 5 cm minimum) to remove the possible oxidation of the cables and the conductor end exposed to atmospheric contamination.

3.1.2 GEOMETRICAL RECONFIGURATION

If required, before the stripping operation, a geometrical reconfiguration of the cylindrical shape of the cable shall be performed using reshaping tool.

3.2 OPERATIONS DESCRIPTION

During the stripping operation, the cable shall be held perpendicular to the blades and the insulation shall be stripped off parallel to the cable axis.

3.2.1 GENERAL REQUIRMENT

3.2.1.1 Stripping of cables

For some cables (shielded, multiple-conductors ...), two stripping operations are required to connect a cable:

- Stripping of the outer insulation.
- Stripping of the conductors.

The shielding length depends on the end item used, its position and the stripping dimensions. Depending on the shielding termination to be made or type of shield bond, several stripping operations can be done and are described with in the following AIPI:

- Stripping of shielding termination, see AIPI07-01-005.
- Stripping for shielding bond at end of cable or in window, see AIPI07-01-007.

Then, the stripped cable end shall be connected as soon as possible to prevent damage to strands in stripped area. For aluminum cables, the crimping process shall be performed the same day as the stripping one.

3.2.1.2 Stripping of twisted cables

Twisted cables shall be untwisted only over a length (generally 50 to 60mm - refer to AIPI07-01-001) allowing them to be stripped and correctly connected to the connectors, terminal strips, etc.

3.2.2 STRIPPING WITH HAND TOOLS

3.2.2.1 IDEAL STRIPMASTER and DAVUM WIP-TMC pliers

- Position the cable into the tool.
- Squeeze the handles until the stop (at one go) then release the handles. The insulation of the wire is cut and by a translation movement the insulation end is then slightly pushed along the wire, enabling it to be removed.

3.2.2.2 IDEAL 45-403, IDEAL 45-163 and IDEAL 45-164 pliers

- If the IDEAL tool requires a stop. Adjust the stop at the correct length.



Figure 2: Stripping tool with stop

- Position the tool on the insulation and turn the necessary numbers of turns to cut the insulation applying moderate pressure.
- Remove the tool and then remove the insulation with a rubber grip.
- Check the stripping according to §4.1.4.

3.2.2.3 Scalpel

- Determine the location where insulation shall be cut.
- With a scalpel, and without applying pressure, make a light circular cut around the insulation to initiate the break in the insulation.



Figure 3 : Scalpel and safety scalpels

- Bend the wire where the cut has been made to break the insulation.
- With a rubber grip, grip the end of the wire and remove it.
- Check the stripping according to §4.1.4.

3.2.2.4 DULAC & NOZIERES 9922801500 and 9922801600 tools with inserted blades

- Separate the two sections of the tool body.
- Place the wire on the two rollers enabling the stripper to pivot around the wire.

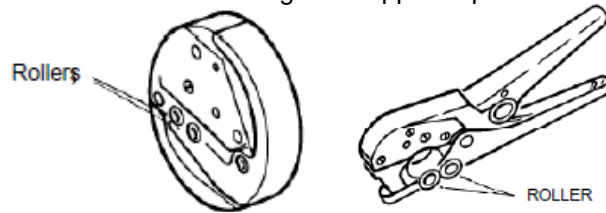


Figure 4 : DULAC & NOZIERES tools

- Turn the necessary numbers of turns to cut the insulation. The razor blades placed inside the tool cut the cable insulation.
- Remove the insulation by hand.
- Check the stripping according to §4.1.4.

3.2.2.5 HUBER & SUHNER 74_Z-0-0-473 or 74_Z-0-0-478 tools

Refer to AIPI07-05-078.

3.2.3 STRIPPING WITH AUTOMATIC TOOLS



Each shop shall define the setting(s) in order to avoid damages on all parts of the cable (outer insulation, shielding ...). The stripping shall be also in accordance with the acceptance criteria.

3.2.3.1 Automatic stripping machine

All automatic machines have a similar structure:

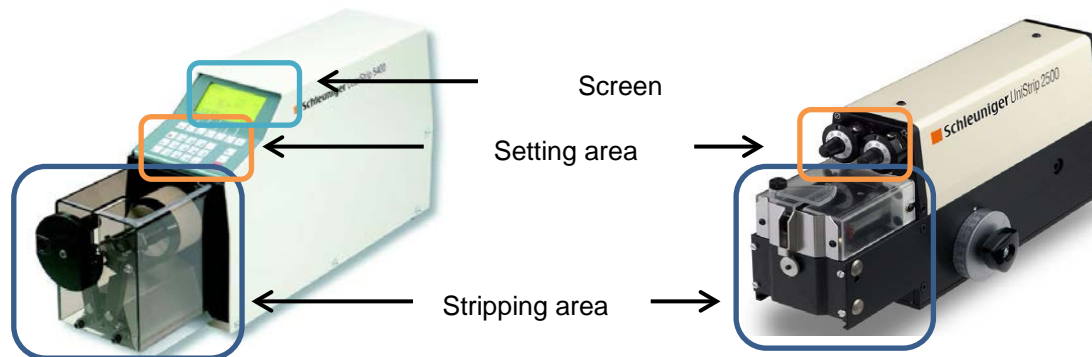


Figure 5: Automatic stripping machine

- The detailed instructions of each automatic stripping machine are described in the relevant documents.
- Check the stripping according to §4.1.4.

3.2.3.2 Pneumatic stripping machine

- Ensure the correct air pressure is available at the stripping tool.
- Connect the pneumatic stripping tool to the air supply.
- Insert the cable in the stripping tool.
- Compress the palm trigger (gun or equivalent) of the tool.
- The wire is stripped. Remove the wire and then release the palm trigger (gun or equivalent).
- Check the stripping according to §4.1.4.

Note: The detailed instructions of each pneumatic stripping machine are described in the relevant documents.

3.2.4 STRIPPING WITH THERMAL TOOLS

- Set the power unit at the stripping cable value temperature.



Each shop shall define the setting(s) in order to avoid damages on all parts of the cable (outer insulation, shielding ...). The stripping shall be also in accordance with the acceptance criteria.

- If possible (HOTweezers tool), install the guiding tool at position of stripping location and put the blade in contact with the front of the guiding tool.
- Turn around the blade perpendicularly to the wire.
- Remove the insulation.
- Check the stripping according to §4.1.4.

3.2.5 STRIPPING OF ALUMINUM CABLES EXCEPTED CABLE ABS0949 AD



This paragraph is applicable to all aluminum cables excepted cable ABS0949 AD and its derivatives.

When using aluminum cable, the following instructions concerning possible oxidation of the cables shall be respected:

- Cut the end of this cable (5 cm minimum) and check that the strands are free from signs of oxidation.
- After use, shrink a piece of tubing NSA937502 onto the end of the cable according to AIPI07-07-001.
- If only one end of the cable cut is crimped, the other end of this cable shall be protected in the same way.

3.2.6 STRIPPING OF COAXIAL CABLES

- Special care shall be taken when stripping a coaxial cable: be careful not to damage the strands in the successive shielding and core stripping operations so as not to modify the characteristics of the cable (impedance).
- The shielding(s) comprising the cable is cut to length with scissors.
- Some coaxial cables have a so-called anti-signal protection on the core insulation:

This protection is removed with the ABISOFIX tool type No. A3 (for 0,6mm to 2,0mm diameters) or equivalent, for a wound tape protection or with a cloth dampened with solvent for an extruded powdery protection.

3.2.7 STRIPPING OF SPECIAL CABLES

Refer to AIPI07-02-002.

3.3 COMPLETION

N/A.

3.4 KEY PROCESS PARAMETER

The KPP table is defined following A1356.



AIPI No Reference: AIPI 07-02-001 Issue A4									
KPP Numbering		KPP Designation	Recommended Control Action	Acceptance criteria				Discrete Status	Process Capability Impact
Related Numbering	Type			Continuous Variable					
				Lower limit	Nominal value	Upper limit	Unit		
AIPI 07-02-001.0001	CTI	Tools	The correct tools (requested and qualified) listed in the §2.2 are used					Yes	No
AIPI 07-02-001.0002	CTI	Visual examination of cables	No visual defects are observed according to §4, Table 8, Table 9 and Table 10					Yes	No
AIPI 07-02-001.0003	CTI	Correct stripping dimensions (lengths + tolerance)	The stripping dimensions are correct according to the AIPI of each end fitting to be connected					Yes	No
AIPI 07-02-001.004	CTI	Aluminium cable crimping	For aluminum cables, the crimping process shall be performed the same day as the stripping one.					Yes	No

3.5 IMPLEMENTATION

N/A.

4 PROCESS QUALITY ASSURANCE AND FOLLOW-UP

4.1 SERIAL PRODUCTION INSPECTIONS

4.1.1 RESULTS TO BE OBTAINED

After stripping, the cable shall be free from all damages in order to conserve its mechanical and electrical characteristics.

After stripping, the core shall be free from damage to the strands and remain perfectly twisted and require no forming operations.

4.1.2 PRE-OPERATION CHECK

Check that the length of the cable is in compliance with the length given in the manufacturing dossier.

Check the tools and if required clean it.

Check that the tools have been subjected to periodic checks.

4.1.3 CHECK DURING STRIPPING

During the stripping operation, the cable shall be held perpendicularly to the blades and the separation of the insulation shall be done parallel to the cable axis.

4.1.4 CHECK AFTER STRIPPING

After stripping, the core shall be free from damage to the strands and remain perfectly twisted.

The cut of the core shall be clean and perpendicular to the axis of the cable.

There shall be no marks on the core and no strands shall be marked, damaged or cut.

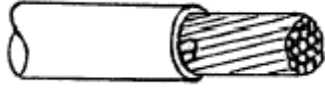




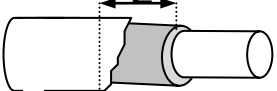



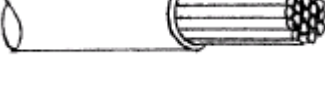
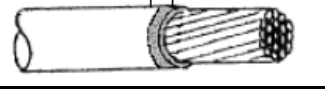
The base metal shall not be visible.

The stripped ends shall be immediately crimped to avoid damaging the strands (contamination, deterioration of the core, etc.).

Note: See Table 9, Table 10 and Table 11 for the visual characteristic defects and tolerances.

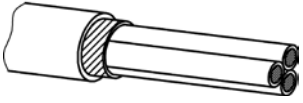
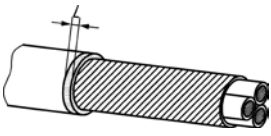
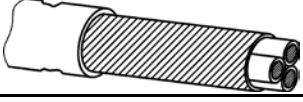
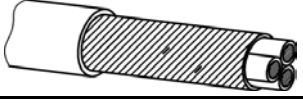
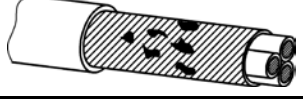
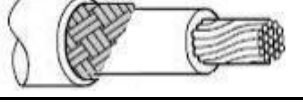
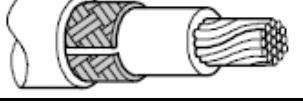
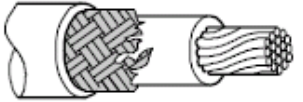

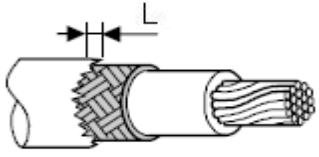
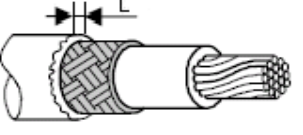
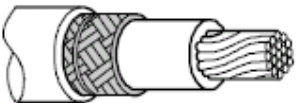
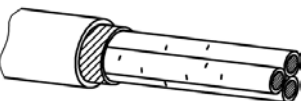
If necessary, after use, clean the tools.

Table 9: Conductor stripping defects

Illustration of defects	Description	Decision	Limits
	Strands cut	REFUSED	-
	Core unstranded and splayed	REFUSED	-
	Mark on insulator (notch, burned, visible core, ...)	REFUSED	Acceptable when only an external varnish is removed
	Core marked along a generating line	REFUSED	Acceptable only when copper or aluminum are non-visible
	Superficial contamination (burned insulator, glue residues, dust, ...)	REFUSED	Acceptable if non visible with naked eye
	Residual insulation	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Strands cut out of line	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Strands marked (on the stripping dies zone)	REFUSED	Acceptable only when copper or aluminum are non-visible No mark is accepted for laser tool
	Superficial mark on insulator (stripping jaws, clamping jaws, ...)	ACCEPTED	-
	Core unstranded (no splaying)	ACCEPTED	-
	Heat affected zone	ACCEPTED	Acceptable if $L \leq 1\text{mm}$




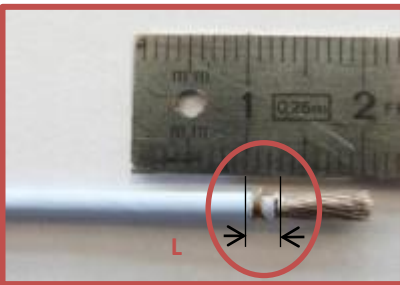
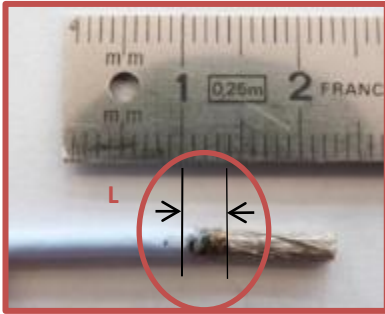

Note: The above sketches, showing a single-wire cable, also apply to multi-wire and coaxial cables.

Table 10: Conductor shielding stripping defects

Illustration of defects	Description	Decision	Limits
	No mark or erasable marks or slight discoloured spots of the inner wires insulation	ACCEPTED	
	Heat affected zone	ACCEPTED	Acceptable if $L \leq 1\text{mm}$
	Superficial mark on jacket insulator (tool jaws, ...)	ACCEPTED	
	Screen strands cut	REFUSED	
	Superficial contamination (burned insulator, glue, dust, ...)	REFUSED	Acceptable if non visible with naked eye
	Cut of shielding not perpendicular to conductor axis	REFUSED	
	Shielding marked along a generatrix	REFUSED	
	Braid strands unwoven	REFUSED	
	Mark on jacket insulator (notch, burned, visible screen, ...)	REFUSED	Acceptable when only an external varnish is removed
	Residual insulation on shielding	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Cut insulation torn	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Strands marked (on the stripping dies zone)	REFUSED	No mark is accepted for laser tool
	Mark on inner wire(s) insulation (notch, burned, visible core, ...)	REFUSED	

Note: The sketches, showing a single-wire cable, also apply to multi-wire and coaxial cables.

Table 11: Example of thermal stripping defects

Illustration of defects	Description	Decision	Limits
	Correct stripping	ACCEPTED	
	Superficial mark on insulation: Outer insulation or conductor insulation melted (overheated, notch ...)	ACCEPTED	Only an external varnish is removed
	Insulation damaged: Outer insulation or conductor insulation burned (color change)	REFUSED	
	Insufficient heating: Cut not clean, outer insulation or conductor insulation torn	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Overheating - Heat affected zone: Outer insulation or conductor insulation burned (color change, blister, local contamination...)	REFUSED	Acceptable if $L \leq 1\text{mm}$
	Mark on the shielding, separation of the strands or mark on the cable conductor : Shielding/cable damaged (color change, local contamination, notch, superficial mark, strands cut...)	REFUSED	

4.2 QUALITY CONTROL AND MONITORING

The use of this process requires the application of no specific monitoring provisions. Only general provisions are applicable such as:

- monitoring operators qualifications,
- monitoring the validity of the tools.

4.3 FOD FOREIGN OBJECT DAMAGE

As AIRBUS policy is to design, manufacture and deliver aircraft with no foreign bodies to customers, it is essential to comply with the following rules to avoid FOD:



- Implement best cleaning practices and organize the management of items, tools and supplies.
- Move and store production items and tools so as to avoid all risks of damage and corrosion.
- Know where your tools are located and their condition.
- Know what you have used and how much should remain.
- Keep consumables away from critical FOD zones and use them "only when needed".
- Know who to contact and what to do if real or suspected FOD occurs.

5 ENVIRONMENT, HEALTH AND SAFETY

Applicable for Airbus employees and sub-contractors working on Airbus sites only.

Apply the local safety rules.

It is the responsibility of the user of this specification to apply the appropriate health and safety instructions and to take into account any specific instructions to station access and intervention on aircraft before starting work.

CAUTION: When applying this procedure on an aircraft supplied with power, switch off the electrical circuit, unplug the concerned harness and put up the appropriate danger signs. A harness supplied with power shall not be unplugged.

Use of PPE (Personal, Protective and Equipment) shall be defined by local safety department.

Machinery shall be CE marked excepted hand tools.

All new chemical products shall be subject to internal introduction and use process.

Hand tools: Tools operated by human force alone.

6 APPENDICES

[APPENDIX A - Requirements for thermal stripping tool qualification](#)

APPENDIX A - REQUIREMENTS FOR THERMAL STRIPPING TOOL QUALIFICATION



This procedure of thermal stripping tools qualification is not applicable by the airlines.

1. SCOPE

This document is a guide to be used for the qualification of existing or new thermal stripping tool for electrical cables.

2. KEY ELEMENTS TO DEFINE

According to each selected cable standard type, the cable gauge (AWG) and the geometry/form of the heating blade, the following parameters shall be defined and qualified:

- Heating temperature and/or tool setting (according to the tool setting possibilities).
- Heating time of the blade on the outer or conductor insulation.
- Preheating time of the tool.

3. SAMPLES PREPARATION

Samples (first batch and second batch) shall come from the same qualify source and all qualify sources shall be tested.

- First batch (10 samples):

Define and test the optimal exposure time/temperature couple (setting). This couple shall be sufficient and non-destructive to allow successful stripping according to the acceptance criteria of this AIPI and the below §4.






- Second batch (10 samples): destructive test

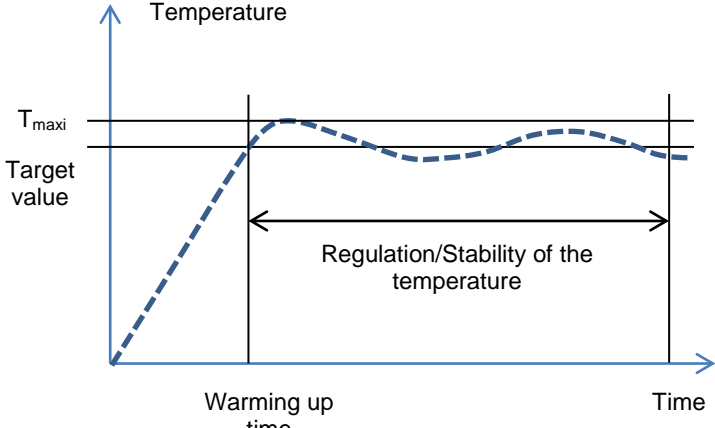
Define and test the limits of the time/temperature couples (settings) to reach a non-compliant result over the cable (outer or conductor damaged, color change...)

4. CHECKING AND MONITORING METHOD

The following tests shall be performed in the QTR with the optimal exposure time/temperature couple (10 samples). All samples shall be compliant.

Table 12: Tests

Test	Description	Sanction	Standard
Double stripping of outer and/or conductor insulation	<p><u>Test sequence for one sample:</u></p> <p>1. Strip the outer insulation.</p>  <p>2. Strip the outer insulation a second time and make a visual examination with an optical magnification (x10) at the level of the first stripping.</p>  <p>3. Fold back the shielding and make a visual examination with an optical magnification (x10) at the level of the first stripping.</p>  <p>4. Strip the conductor insulation.</p>  <p>5. Strip the conductor insulation a second time and make a visual examination with an optical magnification (x10) at the level of the first stripping.</p> 	Acceptance criteria of the AIPI	EN3475-201

Test	Description	Sanction	Standard
Voltage proof test	Perform voltage proof tests	See cable specification*	EN3475-302
Tool validation according to the time/temperature couple defined	Record the warming-up time (reference time for the preheating of the tool)	-	-
	Regulation/stability of the temperature – Maximum temperature according to an input reference (target value)	Check that the maximum non-compliant temperature (defined with the second batch) is not reached	
			

* If required contact the Airbus site, AIPS07-02-001 responsible and specialists (missing information on voltage proof test).

The QTR shall be:

- Sent to Airbus method department (no Airbus signature) – possibility to send only the QTR cover sheet with signatures.
- Available prior an audit.
- Updated if a parameter listed in §2 is modified.

5. RESULTS

The results shall be compliant with the acceptance criteria of this AIP1 and the tests described in §4.

6. MAINTENANCE

The tool maintenance and the frequency shall be defined and in line with tool validation (see §4). A temperature monitoring shall be defined.

The shop, who initially qualifies the tool and/or cable, is responsible of the tool verification and calibration frequency.

GLOSSARY

The following words and their definition apply within this document:

AIPI	Airbus Process Instruction
AIPS	Airbus Process Specification
AWG	American Wire Gage
CTI	Critical Item
FOD	Foreign Object Damage
KPP	Key Process Parameters
N/A	Not Applicable
PTFE	Poly Tetra Fluoro Ethylene

RECORD OF REVISIONS

Issue	Modified pages & §	Description of changes	Manufacturing Process impacted Yes/No
1 04/09		Creation LC AIPI Supersedes IPDA83-07 Supersedes 80T40-3218 partially Supersedes ABP7-2255	
A1 02/12		Creation real AIPI Merge with AIPI07-02-009 stripping AD and DR cables	
A2	ALL	New template and form modification	No
	Appendix A, p31	Add of DAVUM TMC-W1 tool for ASNE0260 cable with BF code in Table A.1	No
A3	All	"must" replaced by "shall"	No
	All	Photo numbers and § references updated	No
	All	Document structure/organization/template updated	No
	p6; §2	§ added	Yes
	p7-8; §2.2.2.1	Stripping pliers references updated	Yes
	p11-17; §2.2.2.5	Stripping tools according to the cable type updated	Yes
	p23; §3.4	KPP table updated	Yes
	p24; §4.1.2	Check steps added	Yes
	p24; §4.1.4	Cleaning step added	Yes
	p25-27; §4.1.4	Acceptance criteria updated	Yes
	p28; §5	§ updated	Yes
	p29-30 Appendix A	"Requirements for thermal stripping tool qualification" added	Yes
A4	p6; §2	§ updated	Yes
	p7-8; §2.2.2.1	Tool references updated and added	Yes
		Note added	Yes
	p9; §2.2.2.3	Tools added	Yes
	p10; §2.2.2.4	Table updated	Yes
	p11-17; §2.2.2.5	Table updated	Yes
	p21; §3.2.3	§ added	Yes
	p22; §3.2.4	§ updated	Yes
	p25-27; §4.1.4	Table updated	Yes
	p28; §5	§ updated	No