# SPECIFICATION

# SWISS POWER SUPPLY CORDSET (PB FR)

CORD : H05VV-F 3X1.0mm<sup>2</sup> PVC LEAD FREE

CUSTOMER : VPE/FARNELL COMPONENTS CUSTOMER'S PART No. : 231266Ø VOLEX'S REF No. : 132308 ISSUE No. : 005 DATE : 07TH JANUARY 2022

CUSTOMER APPROVED :

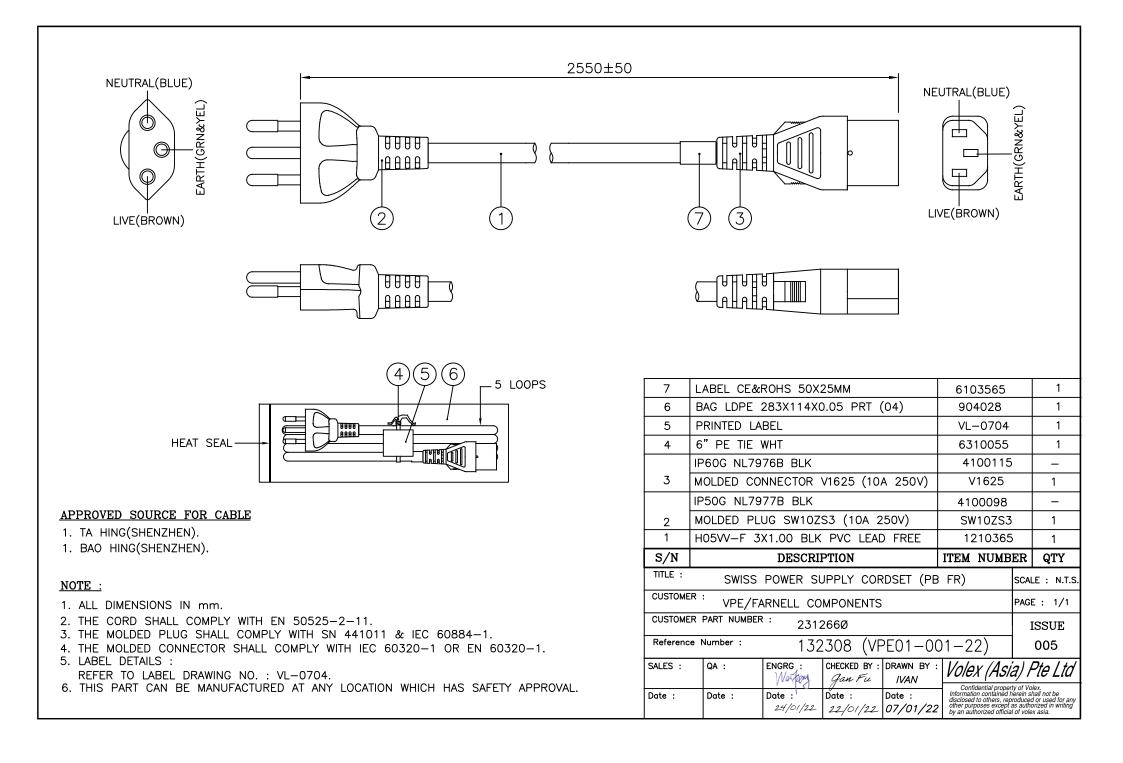
Volex

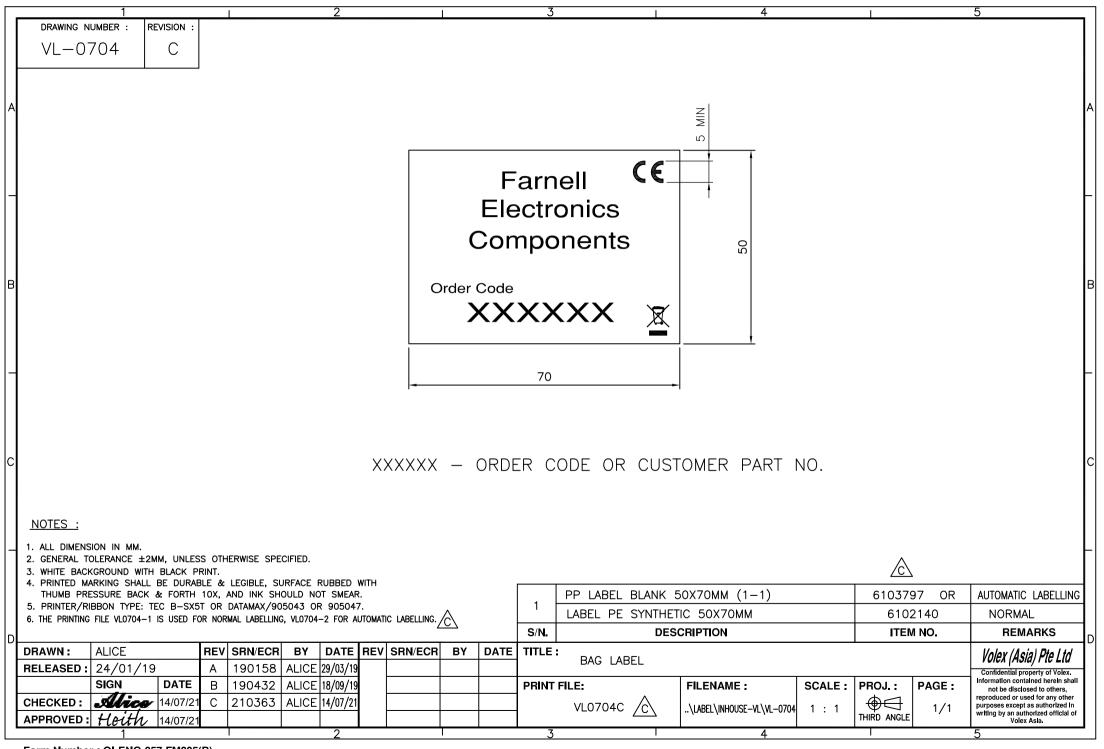
APPROVED BY	:	
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No. OF PAGES	:	

Volex (Asia) Pte Ltd 35 Tampines St. 92 Singapore 528880 Tel : (65) 6788 7833 Fax : (65) 6788 7822

# AMENDMENT RECORD

REF. No.	DESCRIPTION OF CHANGES	DATE
132308	(1) FIRST SUBMISSION.	13/03/13
(HG03-036-13)		
ISSUE : 001		
132308	(1) CHANGE CUSTOMER P/N FM. 'X-525583A-SEV' TO '231266Ø' ON COVER	24/04/13
(HG04-067-13)	PAGE & ASSEMBLY DWG. PAGE.	
ISSUE : 002	(2) UPDATE PLUG & CONNECTOR SPEC. PAGES.	
132308	(1) CHANGE LABEL FM. 'VL-0124' TO 'VL-T522' ON ASSEMBLY DWG. PAGE.	20/02/19
(EVPE02-034-19)	(2) UPDATE NOTE 2 ON ASSEMBLY DWG. PAGE.	
ISSUE : 003	(3) CHANGE LABEL DWG. PAGE.	
	(4) UPDATE CABLE MARKING PAGE OF TONG YUAN.	
	(5) UPDATE PLUG SPEC. & CONN. SPEC. PAGES.	
132308	(1) CHANGE LABEL FM. 'VL-T522' TO 'VL-0704' & UPDATE NOTE 5 & ADD	22/11/19
(VPE11-081-19)	CABLE SOURCE 'TH' & ADD S/N '6103565' ON ASSEMBLY DWG. PAGE.	
ISSUE : 004	(2) CHANGE LABEL DWG. PAGE FM. 'VL-T522' TO 'VL-0704'.	
	(3) ADD LABEL PAGE OF 'L-0649' & ADD CABLE MARKING PAGE OF 'TH'.	
	(4) UPDATE CONN. SEPC. PAGES.	
132308	(1) UPDATE NOTE 3 & REMOVE TY ON ASSEMBLY DWG. PAGE.	07/01/22
(VPE01-001-22)	(2) UPDATE LABEL DWG. PAGE OF VL-0704.	, ,
ISSUE : 005	(3) REMOVE CABLE MARKIIG PAGE OF TY.	
	(4) UPDATE PLUG & CONN. SPEC PAGES.	
	(5) UPDATE PLUG & CONN. DWG. PAGES.	





Form Number : OI-ENG-057-FM005(B)

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DRAWING NUMBER :	REVISION :									
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							RoHS Compliance	WITH BI	LACK PRINTI	NG
SPECIFICATION :										В
FACESTOCK MA		POLYPROPYLEN	E FILM		0					
FACESTOCK TH		50 uM±10%			\$ 50					
FACESTOCK CO		TRANSPARENT			Ŷ			— TRANSPA	ARENT	
ADHESIVE BASE		MATTE SOLVENT ACRYL								-
SHELF LIFE		1 YEAR								
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<u>NOTES</u> :										
1. ALL DIMENSION IN										-
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DRAWN : ALICE			ATE REV IMM/EC	R BY DAT						Volex (Asia) Pte Ltd
RELEASED: 08/11/			01/19				ABEL 50X25MM		<u>.</u>	Confidential property of Volex.
		90432 ALICE 18/1	09/19		ITEM NO.:	7505 10001	FILENAME :	SCALE :	PROJ.: PAG	E: not be disclosed to others
	R 18/9/19					3565–XXXX	.\LABEL\PREPRINTED\L-	0649 1 : 1	THIRD ANGLE	1 purpose accept as authorized in 1 writing by an authorized official of Volex Asia
Form Number : OI-ENG	-057-EM006/B)		2		3	1	4			5
	-037-1-1000(D)									

REV.	DESCRIPTION	DATE
	CHANGE MARKING PER ECNO04-15.	
D	ADD IN NOTE 1.	18/02/16
	REMOVE OLD MARKING PER ECR#160527.	
E	REMOVE NOTE 1.	21/09/16

#### CABLE MARKING

## TA HSING(SHENZHEN)

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DRAWN CHECK APPR	LI XIA	21/09/16 21/09/16 21/09/16	FILENAME : CABLE MARKING /TH(SZ)/HOSW-F 3X1.00 - LF	TITLE : CABLE MARKING (EU/SAA/IEC)
SCALE	N.T.S.	REV.	Е	
REFERENC				Volex (Asia) Pte Ltd
HOS	5VV-F 30	\$1.0mm²	LF	Confidential property of Volex. Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as subtrator in writing by un authorized official of volex sala.

REV.	DESCRIPTION	DATE
Α	INITIAL RELEASE.	12/10/02
	UPDATE MARKING DETAILS.	
	UPDATE THE FORMAT AS SHOWN.	
В	ADD IN '(EU/SAA/SAB/IEC)' ON THE TITLE.	19/01/05

CABLE MARKING

4

#### BAO HING (SHENZHEN)

A:- HO5VV-F 3G1.0mm<sup>2</sup> VDE▷ KEMA-KEUR + ω + ω + ω
OVE ▷ CEBEC IEMMEQU SABS 1574 S N D F
BAOHING GTSA-3 N14586 C€ LF

DRAWN	LI XF	19/01/05	FILENAME :	TITLE :
CHECK	witz	19/1/05	CABLE MARKING/ BH/H05/H05W-F	CABLE MARKING
APPR	charphin	19/01/05	3X1.0 LF- BH	(EU/SAA/SAB/IEC) A
SCALE	N.f.s.	REV.	В	(EU/SAA/SAB/IEC) 203
REFERENC	CE :			Volex (Asia) Pte Ltd
но	5VV-F 3X	(1.0mm²	LF	Confidential property of Volex. Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as authorized official of Volex sala.

## 2. PLUG

REV	DESCRIPTION	DATE
А	INITIAL RELEASE.	11/26/2021
В	ADD SW10ZS3 AS SHOWN.	22/12/2021

#### 2.1. SCOPE

The plug shall be in accordance with SN 441011 & IEC 60884-1.

#### 2.2. CONSTRUCTION

The plug construction shall comply with our catalogue No:SW10ZS2,SW10BS2,SW10DS2, CH16S3, *SW10ZS3*.

#### 2.3. CHARACTERISTICS

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
1	Moisture resistance	Samples are kept in a humidity cabinet con- taining air with a relative humidity between 91	No damage
	test	to 95% and a temperature of $20^{\circ}$ C- $30^{\circ}$ C for a	
		duration of 48 hours.	
2			
2	Electric strength	A voltage of A.C 2000V with a trip current of min.	No flashover
	test	100mA is applied for 1 min after the moisture	and breakdown
		resistance test.	
3	Insulation resistance	This test is measured after 1 min. application of	Min. 5 M Ohm
	test	D.C 500V after the moisture resistance test.	
4	Pressure test	The plug is pressed with a force of 150N for 5	The plug shall not have
		minutes.	been deformed.
5	Temperature rise	For 10A plug, the test current of $10A (0.75 \text{mm}^2)$ ,	The temperature rise at
	test	$13A(1mm^2)$ or $16A(1.5mm^2)$ for $16A$ plug, the test	any points shall not
		current of 16-20A(1.0mm <sup>2</sup> ) 20A (1.5mm <sup>2</sup> ),22A	exceed 45°C.
		$(2.5 \text{mm}^2)$ is passed through poles for 1 hour.	
		(Per SN441011-1 Table A)	
6	Bending	The sample shall be loaded with a weight of 10N	No damage and
	test	for 0.75mm <sup>2</sup> or 20N for 1.00mm <sup>2</sup> and bigger and	the voltage drop shall
		the oscillating member shall be moved backward	not exceed 10mV.
		and forward through an angle of $90^{\circ}$ (45° on	
		either side of the vertical) the number of flexing	
		being 10,000.A current of 10A (0.75mm <sup>2</sup> ) or 16A	
		$(1.0 \text{mm}^2 \text{ and above})$ is passed through the	
		conductors.	
7	Pin pull test	A pull force of 50N is applied on the pins (in	The displacement of the
		turn) after the plug has been aged for 1 hour at	pin shall not be more than
		70°C.	1 mm.

1			
REFERENCE:			Volex (Asia) Pte Ltd
REV:	В		]
APPR:	Camon	23/12/21	SWISS PLUG (SN 441011)
CHECK:	Jan Fu	22/12/21	
DRAWN:	FUWANG	22/12/2021	TITLE:

PAGE 1 OF 2

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N	NO.	TEST ITEM	DESC	CRIPTION		ACCEPTANCE CRITERIA
	8	Tumbling test	The samples are droppe onto a steel plate (3mm times. A torque of 0.4M direction for 1 min. firs direction for another m	n thick) for a tot Im is applied in st then follow by	No damage and the pins shall not turn. Check dimension by Guange J1 or J3 if the gauge slides over the pins & solely through its own weight	
	9	Cold impact test	The samples are kept in temperature of - $15\pm2^{\circ}$ samples are then allow (1000g) from a height of	n a refrigerator a C for at least 16 ed to fall by the	hours. The	No damage
	10	Heat deformation test	The samples are kept for cabinet at temperature	or 1 hour in a he	eating	No damage
	11	Heat pressure test	The samples are applie temperature of 80±2°C	d 20N (2.04kg)	at a	No damage
	12	Ageing test	The samples are kept for cabinet at temperature	or 168 hours in	a heating	No damage
	13	Pressure test II	The samples are applie temperature of 20±2°C	d 300N (30.6kg	g) at a	No damage
	14	Cord-anchorge test	The cord is subjected to 60N (10/16A) force 10 lasting 1 sec.Thereafter a torque of 0.15Nm (2 (others) for 1 min.	o pulls of 50N ( 0 times without the cord is sub	i jerk each	The cord shall not be damaged and shall not been displaced by more than 2mm.
	15	Ball pressure test	A steel ball of 5mm in 20N force on the samp $125\pm5^{\circ}$ C for 1 hour on than cooled by cold wa	le at a temperati the insert The	ure of	The diameter of the impression shall not exceed 2mm.
	16	Glow wire test	The tip of the glow wir 750±10°C shall be app the current-carrying pir For all other parts, the 650±10°C.	e heated electri lied at the portions and for a peri	on between iod of 30s.	Any flame and glowing shall extinguish within 30s after the removal of the glow-wire. There shall be no ignition of the tissue papernor sorching of the board.
	17	Abrasion test (only applicable to plugs with insulated pins)	A 1 mm steel wire is us 20,000 times. The leng approximately 9mm, of is over the insulating sl is 4N.	gth of abrasion i f which approxi	The sleeve of the pins shall not be damaged to the extent that it may affect safety or impair the further use if the plug.	
			DRAWN: CHECK: APPR: REV:	FUWANG Jan Fu Camon B	22/12/2021 22/12/21 23/12/21	TITLE: SWISS PLUG (SN 441011)
			REFERENCE:		1	Volex (Asia) Pte Ltd Confidential property of Volex.
PAGE 2 OF	F 2					Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as authorized in writing by an authorized official of volex asia.

#### 3. CONNECTOR

RI	EV	DESCRIPTION	DATE
В	BF	ADD IN CATALOGUE NO. VNBC5S.	11/11/20
В	BG	ADD IN CATALOGUE NO. VNBC17S, SC54C13KS & VMC13A120.	29/12/21

#### 3.1. SCOPE

The connector shall be in accordance with IEC 60320-1 or EN 60320-1, Test specification - appliance couplers.

#### **3.2. CONSTRUCTION**

The connector construction shall comply with our catalogue No: VAC5S, APC5A, APC5S, APC5M, VAC5AR, APC5SM, DLC5A3, V1625, V1625A, VAC19, VAC17S, VSCC13, AVLC13, APC13, APC13S, VSC19, V1625LA, VAC19A, VSCC15, APC5SP, APC13F, V1625BS, APC13G, VAC13A, VAC13S, PIC17S, VIC13A, DLC5U3, VAC13KS,SOC5S, V1625H, VAC19KS, DLC5E3, HPC13A, V1625AT, VAC17A, APC5SF, VCC13, VCC5S, APC13H, VCC17S, VAC19H, APC13FH, APC13HC, VAC17KS, DLC5CS3, VNC13S, HWC13U, VNC5S, VNC13A, VAC19LA, VAC13AD, MS225A, VNC21S, VAC5ALS, VSCC21A, VSCC21, VNBC13S, HPC13S, VNBC5S, *VNBC17S, SC54C13KS & VMC13A120*.

"All connectors complying to Standard Sheet C5, C13, C15, C15A, C17, C19 and C21"

#### **3.3. CHARACTERISTICS**

NO.	TEST ITEM	DESCRIPTION			ACCEPTANCE CRITERIA	
1.	Moisture resistance test	Samples are kept in a humidity cabinet con- taining air with a relative humidity between 91 to 95% and a temperature of 20°C-30°C for a duration of 48 hours.			No damage	
2.	Electric strength test	Voltages of 3000V±60V and 1500V±60V, with min. trip current of 100mA is applied for 60s±5s between current-carrying contacts and body and between each contacts respectively after the moisture resistance tests.			No flashover and breakdown	
3.	Insulation resistance test	This test is measured with a D.C 500V after the moisture resistance test. Readings are taken after $60s \pm 5s$ of application of voltage.			Min. 5 M Ohm	
4.	Withdrawal force test	i) Min. 1.5N (2N for 16A) - A single pin made to the minimum dimension is inserted into the connector. The pin, together with the weight should exert a force of 1.5N (2N for 16A connector). Each individual pole of the connector is tested seperately.			<ul> <li>i) The pin with the weight should not be withdrawn from the connector for more than 3 seconds.</li> </ul>	
		<ul> <li>ii) Max. 50N (60N for 16A) - Insert and withdraw the connector from a socket having pin dimension to the maximum and shroud dimension to the minimum for 10 times. The connector is then inserted again into the socket hang with a total weight of 50N(60N for 16A). The weight consist of a principal weight which is 90% of the total weight and a supplementary weight of 10%.</li> <li>The test is repeated for hot connector with</li> </ul>				<ul> <li>ii) The connector shall be withdrawn from the socket.</li> <li>If not the supplementary weight is lifted from a height of 5cm and drop.</li> <li>The connector must be withdrawn.</li> </ul>
			ature of 120°	C±2°C on the p	oins.	temperature rise test.
			DRAWN: CHECK:	FUWANG	29/12/21 2 <i>9/12/21</i>	TITLE: EUROPEAN & BRITISH

APPR: REV: REFERENC

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	BG		
	Chum	29/12/21	APPLIANCE COUPLERS
	Northony	29/12/21	EUROPEAN & BRITISH

horized in writing by an authorized official of vo

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
5.	Glow wire test	Glow wire is applied for 30s with temperature of 750°C on inserts and housings retaining contacts and 650°C on elsewhere.	Flame (if any) shall be self- extinguished within 30s . upon the removal of the glow wire and molten droplets shall not ignite paper.
6.	Bending test	The sample shall be loaded with a weight of 10N for 0.75mm <sup>2</sup> or 20N for 1.00mm <sup>2</sup> or bigger and the oscillating member shall be moved backward and forward through an angle of 90°(45° on either side of the vertical) the number of flexing being 20,000.A rated current is applied. For round cord, the sample is turned 90 degree around the axis of cable after 10,000 cycles. The flexing is further completed in this axis. Flat cable is flexed only along the bigger axis of the cable.	There shall be no complete breakage of any of the conductor. Broken conductor shall not have pierced the insulation.
7.	Tumbling test	The sample is dropped from a height of 50cm onto a steel plate(3mm thick) for a total of 500 times.	No damage to impair further use of connector.
8.	Breaking capacity	The connector is connected and disconnected 50	No flashover or sustained
0.	test	times (100 strokes) with the inlet at a rate of 30 strokes per minute with 275V and 1.25 times of rated current.	arcing during the test and no damage to impair further use of connector.
9.	Normal operation test	Test is similar to breaking capacity except that the test voltage is 250V with the connector connnected and disconnected with the inlet for 1000 times (2000 strokes) with rated current and 3000 times (6000 strokes) without current.	Withstand electric strength at 1500V for 1 min, and show no damage.
10.	Temperature rise test	An alternating current at 1.25 times rated current is passed through the current carrying contacts for 1 hour. This is repeated for connector with earth contact passing current between earth and each of the current carrying contacts.	The temperature rise shall not exceed 45K.
11.	Cord-anchorage test	The cord is subjected to pulls of 50N(2.5A) or 60N(others) for 100 times each time for 1 sec. without jerk.Thereafter the cord is subjected for 1 min. to a torque of 0.15Nm(0.75mm <sup>2</sup> ) or 0.25Nm(others).	The cord shall not be damaged and shall not been displaced by more than 2mm.
12.	Heat deformation test	Samples are kept for 1 hour in a heating cabinet at temperature of 100±2°C.	No damage to impair further use of connector.
13.	Heat pressure test	A pressure of 20N is applied at a temperature of $100^{\circ}C \pm 2^{\circ}C$ for 1 hour.	No damage to impair further use of connector.

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APPR:	Chum	29/12/21	APPLIANCE COUPLERS
REV:	BG		
REFERENCE:		Volex (Asia) Pte Ltd	

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
14.	Aging test	The samples are kept for 168 hours in a heating cabinet at a temperature of $80\pm2^{\circ}C$ .	No damage & marking shall be legible.
15.	Ball pressure test	<ul> <li>A ball of 5mm in diameter is applied on the connector with the following temperature with 20N force for 1 hour.</li> <li>i) 125°C for hot connectors.</li> <li>ii) 125°C for parts retaining current carrying parts and earth circuit.</li> <li>iii) 75°C for other parts for cold connector.</li> <li>The connector is then cooled down to room temperature with cold water.</li> </ul>	The diameter of the impression shall not exceed 2mm.

DRAWN:	FUWANG	29/12/21	TITLE:
CHECK:	Warkey	29/12/21	EUROPEAN & BRITISH
APPR:	Chum	29/12/21	APPLIANCE COUPLERS
REV:	BG	-	
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