

Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 1 of 24

SEALTOOL LIMITED

GROUND FLOOR, 22 SHANTUNG STREET, KOWLOON, HONG KONG

Sample Name : SEAL HEATER

SGS Job No. : CP17-044915 - SZ

Date of Sample Received : 14 Aug 2017

Verification Period : 14 Aug 2017 - 09 Nov 2017

Verification Requested : With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Verification Method : Please refer to next page(s).

Verification Result : Please refer to next page(s).

Verification Conclusion : Based on the verification results of the submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) do not exceed the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Note : The test results are related only to the tested items. The report shall not be reproduced except in full without the written approval of the testing laboratory.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jenny

Jenny Liao
Approved Signatory



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Guangzhou Branch Testing Center Chemical Laboratory.

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Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 2 of 24

Verification Method :

1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
 - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy
 - (2) Wet chemical test method
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES
 - c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES
 - d. With reference to IEC 62321-7-1:2015, IEC 62321-7-2:2017 & ISO 17075-1:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS



Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 3 of 24

Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
1	Silvery metal screw	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
2	Silvery metal screw	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
3	Silvery metal rod	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
4	Black coating	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017



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Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 4 of 24

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5	Silvery metal part (base)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
6	Silvery metal screw	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
7	Silvery metal screw	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
8	Silvery metal part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
9	Silvery metal sheet	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
10	Silvery metal tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
11	Silvery metal wire	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
12	White material	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
13	Lt-brown isinglass sheet	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
14	White fibreglass tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
15	Silvery metal pin	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
16	White ceramic tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
17	White fibreglass tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
18	Green plastic tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
19	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
20	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
21	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
22 -C	Red plastic (wire insulation)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017 05 Sep 2017 21 Sep 2017 26 Oct 2017
23	Golden metal part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
24 -C	Black/ red plastic (wire insulation)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017 05 Sep 2017 21 Sep 2017 26 Oct 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
25	Copper-colored metal wire	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
26	Black plastic (heat shrinkable tube)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
27	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL IN IN	--- --- --- --- ND ND	Comply Comply Comply Comply Comply Comply	14 Aug 2017
28	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
29	White glue	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
30 -C	Silvery metal wire (solder)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017 05 Sep 2017
31	Black plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL IN IN	--- --- --- --- ND 269	Comply Comply Comply Comply Comply Comply	14 Aug 2017
32	Silvery metal pin	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
33	Silvery metal tube	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
34	Silvery metal part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
35	Green plastic part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Aug 2017
36	Silvery metal sheet	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017



Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 12 of 24

Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
37	Silvery metal part	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017
38	Lt-blue plated metal screw	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Aug 2017



Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 13 of 24

Remark :

(1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).

(b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated.

(d) The XRF screening test for RoHS elements - The reading may be different to the actual content in the sample be of non-uniformity composition.

(2) (a) mg/kg = 0.0001%, MDL = Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, - = Without BOM.

(b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg
Unit	mg/kg	mg/kg	mg/kg
MDL	10	10	10

The MDL for single compound of PBBs and PBDEs is 100 mg/kg,
MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg,
MDL of Cr(VI) for metal sample is 0.10 µg/cm².



Verification Report

No. CANEC1715952201

Date: 09 Nov 2017

Page 14 of 24

(c) ▼ =Metal sample

- a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm².
The sample coating is considered to contain CrVI
- b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²).
The coating is considered a non-CrVI based coating
- c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive
- unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

IEC 62321 series is equivalent to EN 62321 series

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25



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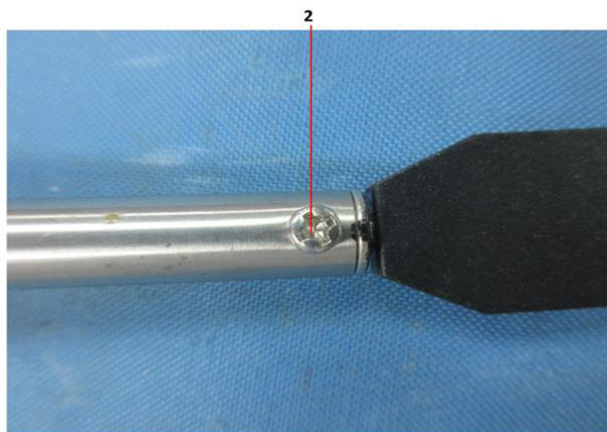
Date: 09 Nov 2017

Page 15 of 24

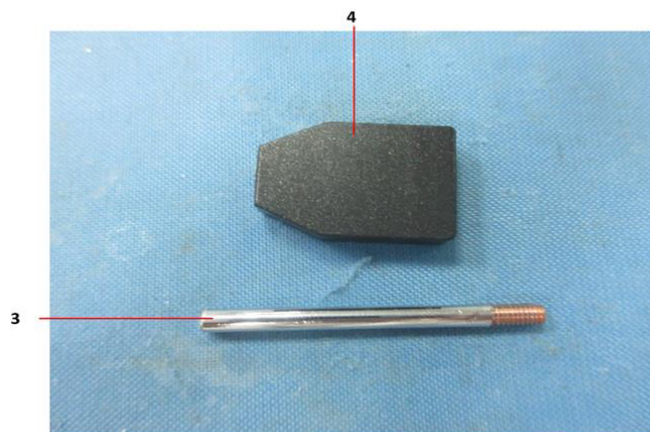
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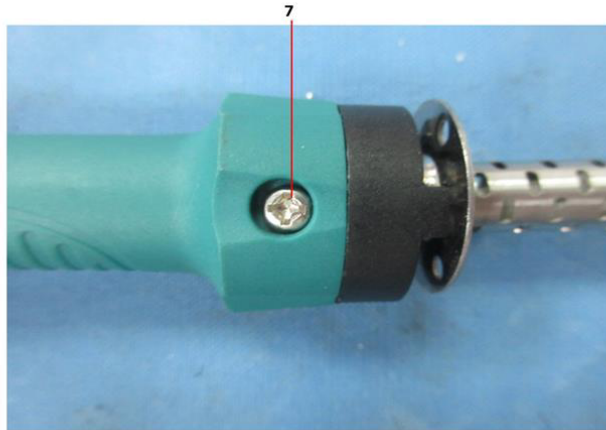
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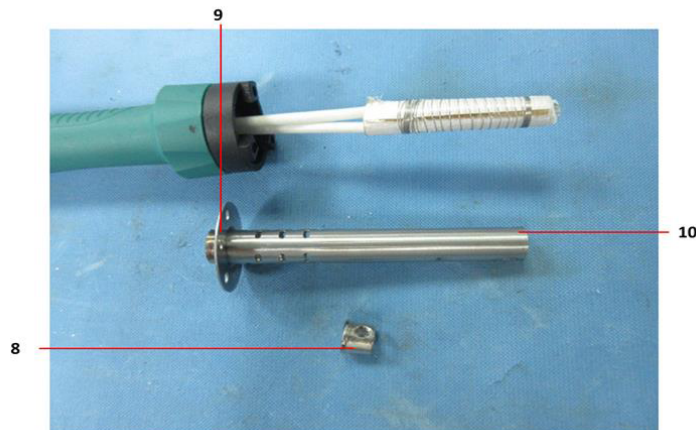


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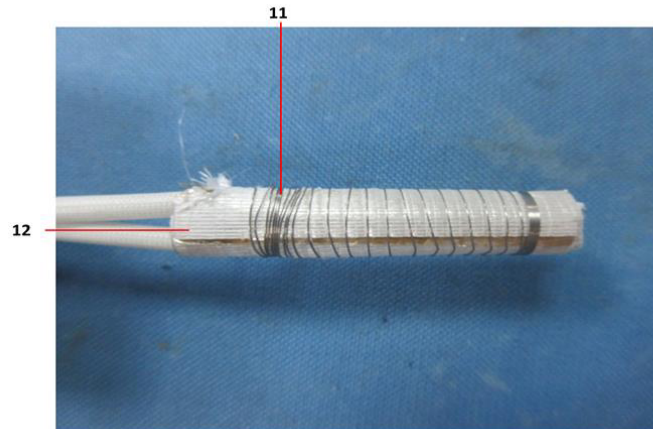
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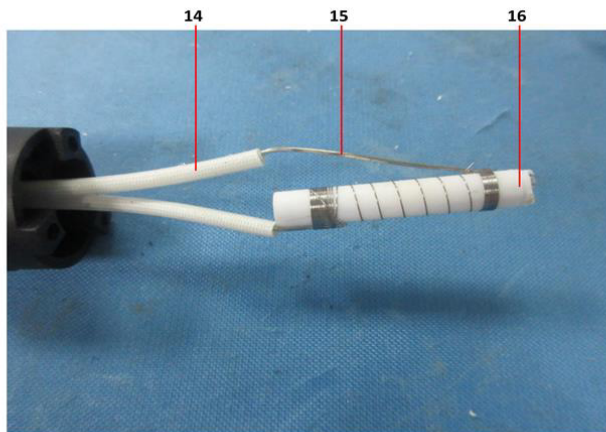
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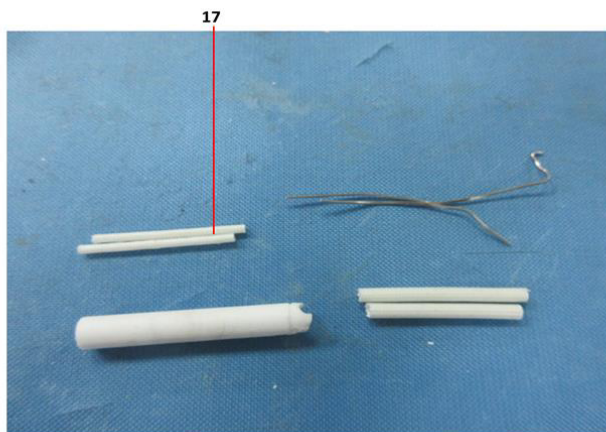
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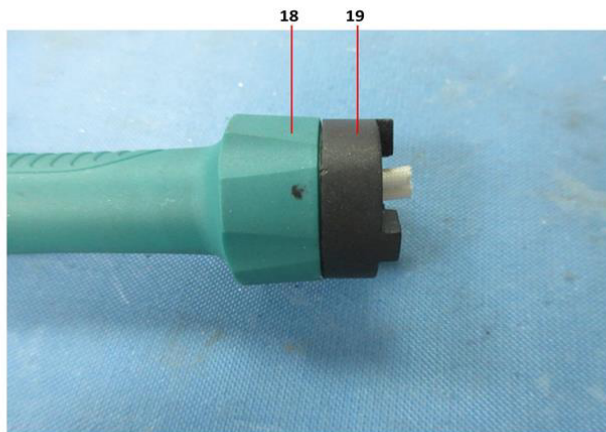
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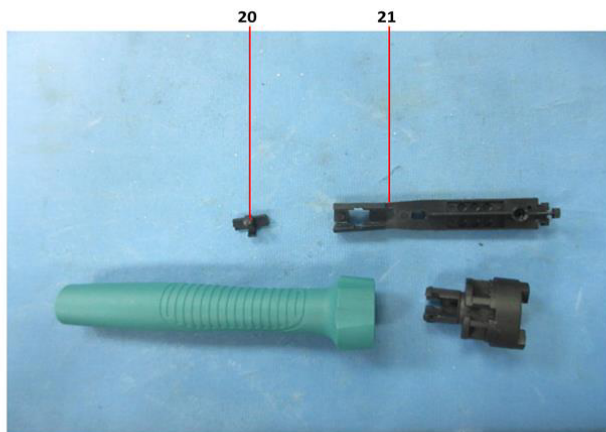
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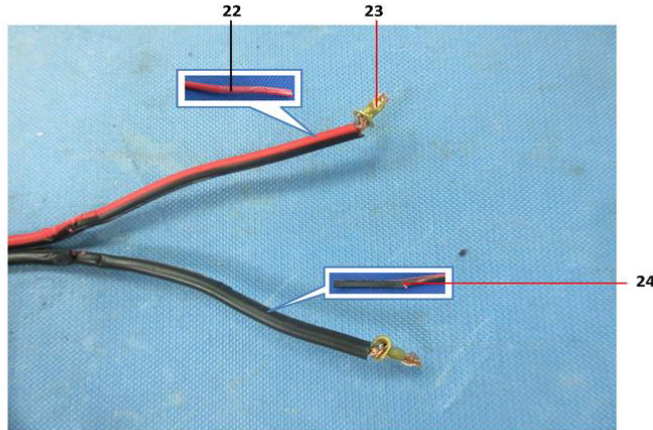
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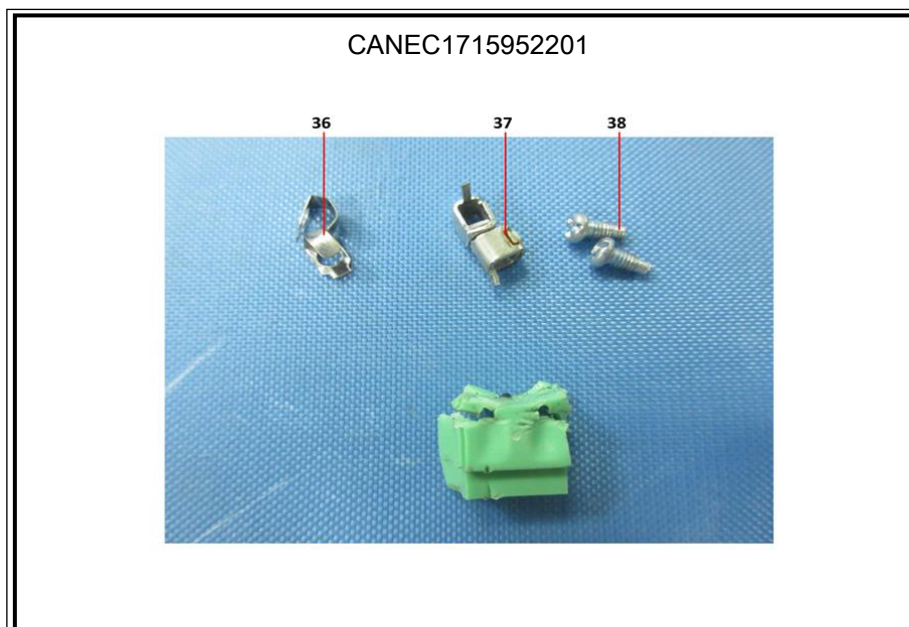
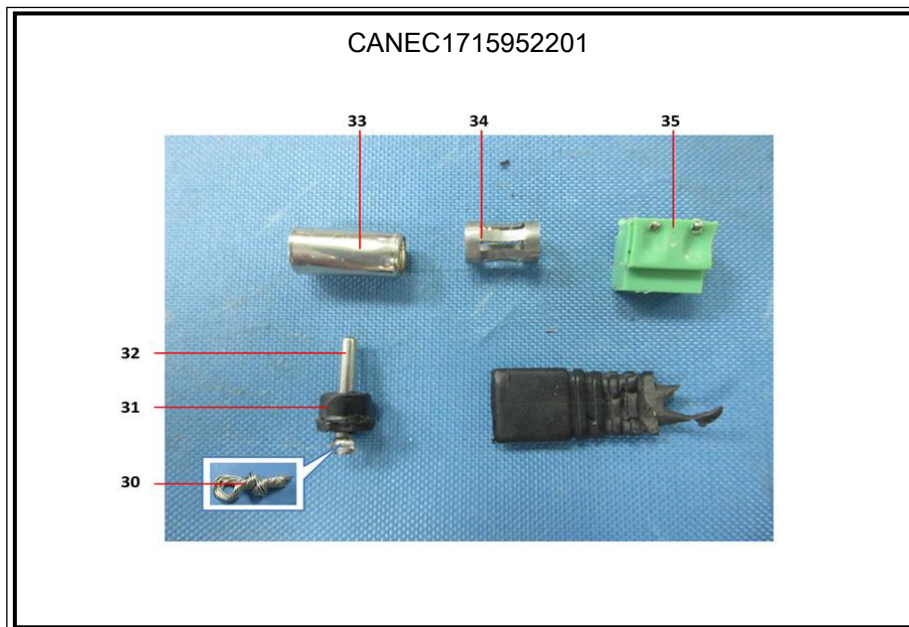


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