TÜV NORD TURKEY Industrial Services
Inspection Report

INSPECTOR	Besim BOZDAŞ	TÜV NORD Turkey ORDER NO.	2312635066
PLACE & DATE	Kahramanlar Caddesi No:26 Minareliköy Lefkoşa / KKTC	REPORT NO	RP-TUVNORD-23/0402-R00
CUSTOMER	CYPROCABLE LTD.	MANUFACTURER	CYPROCABLE LTD.
CUSTOMER ORDER NO	-	MANUFACTURER ORDER NO	-
INSPECTION DATES	02.03.2023 10.04.2023	MANUFACTURER CONTACT	T: +90 392 233 55 79
CUSTOMER CONTACTS	T: +90 392 233 55 79	HARD STAMP	☐ Yes ☒ No
REPORT TYPE	☐ Initial ☐ Interm ☒ Final		
ANNEXES	☐ Yes ☒ No		

- **SUBJECT OF INSPECTION**

TITLE AND DOCUMENT REFERENCES	REVISION AND DATE
• **IEC 62321-5:** Determination of certain substances in electrotechnical products - Part 5: Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by AAS, AFS, ICP-OES and ICP-MS	2013
• **IEC 62321-4:** Determination of certain substances in electrotechnical products - Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS	2017
• **IEC 62321-7-2:** Determination of certain substances in electrotechnical products - Part 7-2: Hexavalent chromium - Determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method	2017
• **IEC 62321-7-1:** Determination of certain substances in electrotechnical products - Part 7-1: Determination of the presence of hexavalent chromium (Cr(VI)) in colorless and colored corrosion-protected coatings on metals by the colorimetric method	2015
• **IEC 62321-6:** Determination of certain substances in electrotechnical products - Part 6: Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry (GC-MS)	2015
• **IEC 62321-8:** Determination of certain substances in electrotechnical products - Part 8: Phthalates in polymers by gas chromatography-mass spectrometry (GC-MS), gas chromatography-mass spectrometry using a pyrolyzer/thermal desorption accessory (Py/TD-GC-MS)	2017

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- **PROJECT PROGRESS**

The names of the products manufactured by CYPROCABLE LTD are given below:

☐ H05V-U, H05V-K, H05V-R, H07V-U, H07V-R, H07V-K
☐ NYY, E1VV-R, YVV-U, YVV-R
☐ 6181Y, 6381Y, YVV-K, NYY-K (NYY FLEX)
☐ NYRY, YVZ2V [CU / PVC / SWA / PVC]
☐ N2XRY, YXZ2V [CU/XLPE/SWA/PVC]
☐ H1Z2Z2-K, 62390 IEC 131
☐ H03VV-F, H05VV-F, A05VV-F
☐ 6241Y, 6242Y, 6243Y
☐ 6241B, 6242B, 6243B
☐ N2XH, YXZ1, NHXMH, 6181B, 6182B, 6183B, 6184B, 6185B
☐ N2XRH [CU/XLPE/SWA/LSZH]
☐ H05Z1Z1-F, A05Z1Z1-F

Details of these product groups are given below. Based on the analyzes made on the selected part of the samples taken to represent the product groups, the RoHS Tests were evaluated according to the results determined according to the limits set by the Directive (EU) 2015/863 amending Annex II of the Directive 2011/65/EU.

The results of the evaluations are evaluated in the table below.

*Lead (Pb) Content			
Test Method	IEC 62321-5:2013		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
1+7+10	< 5	100	P
12+18+21	< 5	100	P
2+3+4	< 5	100	P
5+6+8	< 5	100	P
9+11+13	< 5	100	P
14+15+16	< 5	100	P
17+19+20	< 5	100	P
22+23+24	< 5	100	P
25+26+27	< 5	100	P

Controlled Parameters: Lead
Report Limiting for Plastic : 5,00 mg/kg
Limit value for lead 0.1 % (1000 ppm)
Measurement Uncertainty : ± % 8,4
*According to DIRECTIVE 2011/65/EU, the lead limit for copper alloy materials is 4%.

MASS Laboratuvar ve Danişmanlik Hizmetleri A.Ş. (Accreditation No: AB-1454-T) Report No: 23030018/ 0

*Mercury (Hg) Content			
Test Method	IEC 62321-4:2017		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
1+7+10	< 1	1.000	P
12+18+21	< 1	1.000	P
2+3+4	< 1	1.000	P
5+6+8	< 1	1.000	P
9+11+13	< 1	1.000	P
14+15+16	< 1	1.000	P
17+19+20	< 1	1.000	P
22+23+24	< 1	1.000	P
25+26+27	< 1	1.000	P

Controlled Parameters: Mercury
Report Limiting for Plastic: 1,00 mg/kg
Limit value for Hg 0.1 % (1000 ppm)
Measurement Uncertainty: ± % 11,9

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*Hexavalent Chromium (CrVI) (for nonmetal)			
Test Method	IEC 62321-7-2:2017		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
2+3+4	< 25	1.000	P
5+6+8	< 25	1.000	P
9+11+13	< 25	1.000	P
14+15+16	< 25	1.000	P
17+19+20	< 25	1.000	P
22+23+24	< 25	1.000	P
25+26+27	< 25	1.000	P

Controlled Parameters: Cr+6 content
Report Limiting for Plastic: 25,00 mg/kg
Limit value for Cr+6 0.1 % (1000 ppm)
Measurement Uncertainty: ± % 10,9

*Hexavalent Chromium (CrVI) (for metal)			
Test Method	IEC 62321-7-1:2015		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
1	< 0,10	Stated Below	P
7	< 0,10	Stated Below	P
10	< 0,10	Stated Below	P
12	< 0,10	Stated Below	P
18	< 0,10	Stated Below	P
21	< 0,10	Stated Below	P

Controlled Parameters:

Cr+6 content

Report Limiting for Metal : 0.1 mg/kg with 50 cm²

Limit value for Cr+6

< 0.10 µg/cm²	Negative
≥ 0.10 µg/cm² and ≤ 0.13 µg/cm²	Inconclusive
> 0.13 µg/cm²	Positive

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*Flame Retardants (PBBs/PBDEs)			
Test Method	IEC 62321-6:2015		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
2+3+4	< 10	1.000	P
5+6+8	< 10	1.000	P
9+11+13	< 10	1.000	P
14+15+16	< 10	1.000	P
17+19+20	< 10	1.000	P
22+23+24	< 10	1.000	P
25+26+27	< 10	1.000	P

Controlled Parameters:

Polybrominated Biphenyls (PBB)	Tetrabromobiphenyl (TetraBB)	Heptabromodiphenyl Ether (HeptaBDE)
Polybrominated Diphenyl Ethers (PBDE)	Tetrabromodiphenyl Ether (TetraBDE)	Octabromobiphenyl (OctaBB)
Monobromobiphenyl (MonoBB)	Pentabromobiphenyl (PentaBB)	Octabromodiphenyl Ether (OctaBDE)
Monobromodiphenyl Ether (MonoBDE)	Pentabromodiphenyl Ether (PentaBDE)	Nonabromobiphenyl (NonaBB)
Dibromobiphenyl (DiBB)	Hexabromobiphenyl (HexaBB)	Nonabromodiphenyl Ether (NonaBDE)
Dibromodiphenyl Ether (DiBDE)	Hexabromodiphenyl Ether (HexaBDE)	Decabromobiphenyl (DecaBB)
Tribromobiphenyl (TriBB)	Heptabromobiphenyl (HeptaBB)	Decabromodiphenyl Ether (DecaBDE)
Tribromodiphenyl Ether (TriBDE)		

Report Limiting: 10 mg/kg
Limit value for total (PBBs/PBDEs) 0.1 % (1000 ppm)
Measurement Uncertainty: ± % 11,2

*Phthalates			
Test Method	IEC 62321-8:2017		
Test Start Date :	02.03.2023		
Test Finish Date :	08.03.2023		
Test Parts	**Result (mg/kg)**	**Limit (mg/kg)**	**Verdict**
2+3+4	< 50	1.000	P
5+6+8	< 50	1.000	P
9+11+13	< 50	1.000	P
14+15+16	< 50	1.000	P
17+19+20	< 50	1.000	P
22+23+24	< 50	1.000	P
25+26+27	< 50	1.000	P

Controlled Parameters:

Dibutylphthalate (DBP)		(CAS No: 84-74-2)
Butylbenzyl phthalate (BBP)		(CAS No: 85-68-7)
Di-(2-ethylhexyl)-phtalete (DEHP)	Di-iso-butyl	(CAS No: 117-81-7)
phthalate (DIBP)		(CAS No: 84-69-5)

Report Limiting: 50 mg/kg
Limit value for Phthalates 0.1 % (1000 ppm)
Measurement Uncertainty: ± % 15,1

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TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
1	☐ H05V-U ☐ H05V-K ☐ H05V-R ☐ H07V-U ☐ H07V-R ☐ H07V-K	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded 1.3. Thin Multi **2. PVC Insulation** 2.1. Green – Yellow 2.1. Blue 2.2. Brown 2.3. Black 2.4. Grey	**P**
2	☐ NYY ☐ E1VV-R ☐ YVV-U ☐ YVV-R	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. PVC Insulation** 2.1- Green/Yellow 2.2- Blue 2.3- Brown 2.4- Black 2.5- Grey **3. PE Filler** 3.1. White **4. PVC Sheath** 4.1. Black	**P**

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TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
3	☐ 6181Y ☐ 6381Y ☐ YVV-K ☐ NYY FLEX	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded 1.3. Thin Multi **2. PVC Insulation** 2.1- Black **3. PVC Sheath** 3.1. Black 3.2. Grey	**P**
4	☐ NYRY ☐ YVZ2V [CU / PVC / SWA / PVC]	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. PVC Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown 2.4. Black 2.5. Grey **3. PE Filler** 3.1. White 3.2. Black **4. Galvanized Steel Wire** **5. PVC Sheath** 5.1. Black	**P**

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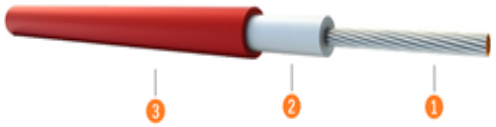
TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
5	☐ N2XRY ☐ YXZ2V [CU/XLPE/SWA/ PVC]	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. Cross-linked Polyethylene (XLPE) Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown 2.4. Black 2.5. Grey **3. PVC Filler** 3.1. Black **4. Galvanized Steel Wire** **5. PVC Sheath** 5.1. Black	**P**
6	☐ H1Z2Z2-K ☐ 62930 IEC 131	 **1. Wire Copper Conductor** 1.1. Tinned Thin Multi **2. Insulation Component** 2.1. Halogen-free Cross-linked **3. Sheath Component** 2.1. Halogen-free Cross-linked	**P**

TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
7	☐ H03VV-F ☐ H05VV-F ☐ A05VV-F	 **1. Wire Copper Conductor** 1.1. Thin Multi **2. PVC Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown 2.4. Black 2.5. Grey **3. PVC Sheath** 3.1. White 3.2. Black	**P**
8	☐ 6241Y ☐ 6242Y ☐ 6243Y	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. PVC Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown **3. PVC Sheath** 3.1. Grey 3.2. White	**P**

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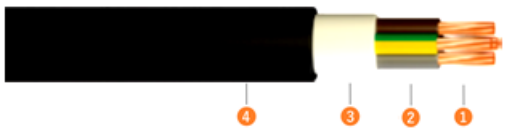
TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
9	☐ 6241B ☐ 6242B ☐ 6243B	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. Cross-linked Polyethylene (XLPE) Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown **3. Halogen-free Flame Retardant Sheath** 3.1. White 3.2. Grey	**P**
10	☐ N2XH ☐ YXZ1 ☐ NHXMH ☐ 6181B ☐ 6182B ☐ 6183B ☐ 6184B ☐ 6185B	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. Cross-linked Polyethylene (XLPE) Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown 2.4. Black 2.5. Grey **3. Halogen-free Flame Retardant Filler** 3.1. White **4. Halogen-free Flame Retardant Sheath** 4.1. Black 4.2. White 4.2. Grey	**P**

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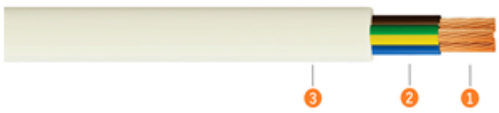
TITLE AND DOCUMENT REFERENCES

No.	Product Name	Detail	Verdict
11	☐ N2XRH [CU/XLPE/SWA/ LSZH]	 **1. Wire Copper Conductor** 1.1. Solid 1.2. Stranded **2. Cross-linked Polyethylene (XLPE) Insulation** 2.1. Green/Yellow 2.2. Blue 2.3. Brown 2.4. Black 2.5. Grey **3. Halogen-free Flame Retardant Filler** 3.1. White **4. Galvanized Steel Wire** **5. Halogen-free Flame Retardant Sheath** 5.1. Black	**P**
12	☐ H05Z1Z1-F ☐ A05Z1Z1-F	 **1. Wire Copper Conductor** 1.1. Thin Multi **2. Halogen free Flame Retardant Insulation** 2.1. Blue 2.2. Brown 2.3. Black 2.4. Grey **3. Halogen free Flame Retardant Sheath** 3.1. White 3.1. Black	**P**

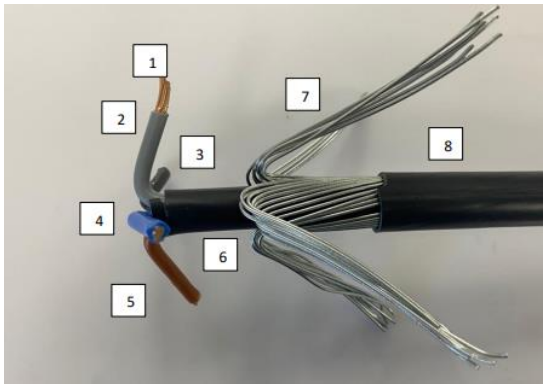
- **MAIN CONCLUSIONS & RESULT & REMARKS**

Test Result:	**P**(ass): Test item does meet the requirement **F**(ail): Test item does not meet the requirement **N/A:** Test does not apply to test item

ANALYSIS	METHOD	Verdict
Cadmium (Cd) Content	IEC 62321-5:2013	P
Lead (Pb) Content	IEC 62321-5:2013	P
Mercury (Hg) Content	IEC 62321-4:2017	P
Hexavalent Chromium (CrVI) (for non metal)	IEC 62321-7-2:2017	P
Hexavalent Chromium (CrVI) (for metal)	IEC 62321-7-1:2015	P
Flame Retardants (PBBs/PBDEs)	IEC 62321-6:2015	P
Phthalates	IEC 62321-8:2017	P

Remarks:	**This report**; - Prepared for the samples mentioned above - Valid for the current condition and the sample being viewed. - Parties in serial production are not for verification. - It does not have a commitment to third parties. - This report has been prepared after voluntary inspection.

- **PHOTOS FROM INSPECTION**



Pic.1 // N2XRY

Pic.2 // NYY

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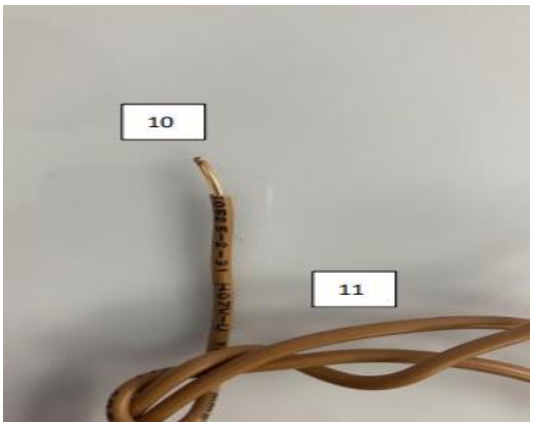	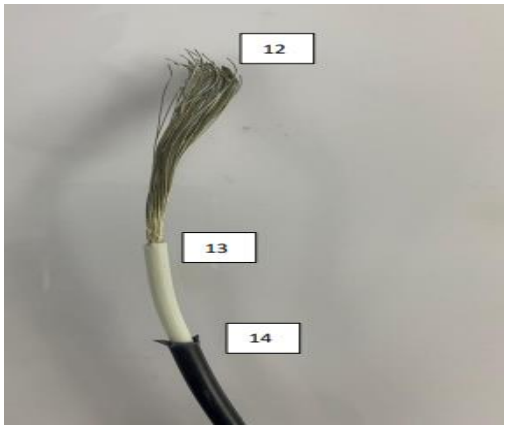
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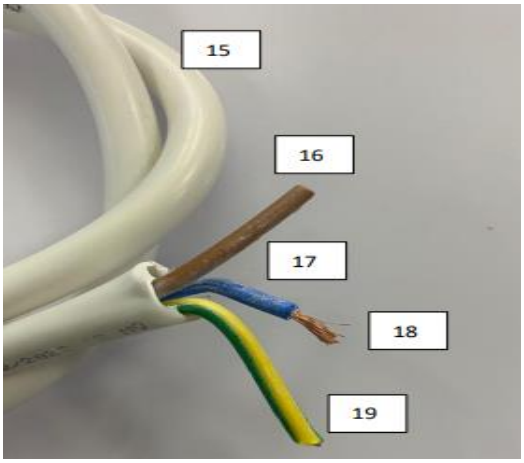	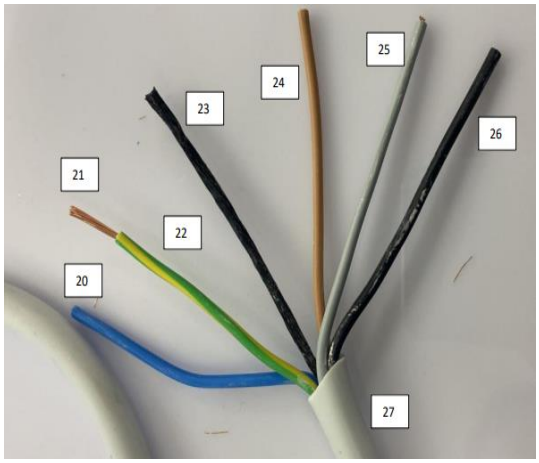
Pic.5 // H05VV-F	Pic.6 // H05Z1Z1-F

Inspected by **Name: Besim BOZDAŞ** **Signature:**	**Reviewed by:** **Name: Oğuzcan ALTUĞ** **Signature:**
Sent to: ☒ CLIENT ☒ ARCHIVE ☒ ARCHIVE	