From	Our reference	Phone	E-Mail	
MS/ENB3	Prijo Ulahannan	+91 80 6783 6100	Prijo.ulahannan@in.bosch.com	Date: 18-Aug-2022 Report No.: Ather_06_TR

Report:	Test report
Title:	Current-carrying parts and connections test
Customer:	Ather India

Document approval			
	Name	**Signature**	**Version**
Prepared by	Prijo Ulahannan	pki, BOSCH, APAC, P, R, Prijo.Ulahannan Digitally signed by pki, BOSCH, APAC, P, R, Prijo.Ulahannan Date: 2022.09.16 13:02:20 +05'30'	1.0
Reviewed by	Mahantesh Ramannavar	pki, BOSCH, APAC, M, A, Mahantesh.Ramannavar Digitally signed by pki, BOSCH, APAC, M, A, Mahantesh.Ramannavar Date: 2022.09.16 15:11:49 +05'30'	

1. Issues (situation, motivation and tasks)

The Ather Company has designed and developed a charging connector for electric vehicles, which is patented. Ather has approached Bosch (BGSW) to validate the charging connector between the vehicle and the charging station according to IS 17017 selective tests as prescribed by Ather requirements.

Current-carrying parts, other than terminals (Wire element) were used for test. The task was to check the current-carrying parts, other than terminals which is used and criteria are as per **IS 17017** chapter no.27.5 to check the functionality of the samples.

2. Results, short version

	o.k.	**not o.k.**
2.1 Material properties of current-carrying parts, other than terminals (Wire)	☒	☐

The overall result of the examined samples is:

☒ **Positive**
☐ **Negative: No further analysis required**

<u>Recommendation for further work:</u> NA

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3. Conclusions and consequences

All samples have passed the test. All the test parameters are within the specified limit of assessment criteria.

4. Results, long version

4.1 Material properties of current-carrying parts, other than terminals – OK (See chapter 5.4 for criteria)

4.1.1 Shall be either of copper.

4.1.2 An alloy containing at least 50 percent copper.

5. Details

5.1 Part details:

Sl. No.	Description	Part number	Manufacture date / Received date	Remarks
1	FLRYB 25 Sqmm	-----	July-2022	-
2	FLRYB 0.5 Sqmm	-----	July-2022	-

5.3 Sample preparation, test setup and test details:

1. Visual inspection of all the samples before test.
2. Visual inspection of samples for the material checks under microscope performed.
3. Data sheet for the wire is checked for material used.
4. Martial composition check has made under X-Ray scope.
5. Same procedure was followed for the all the other samples.
6. See chapter 6 enclosure for more details

5.4 Test conditions and assessment criteria:

5.4.1 Material properties current-carrying parts, other than terminals

Current-carrying parts, other than terminals, shall be either of,

a) Copper.

b) An alloy containing at least 50 percent copper

c) Other metal no less resistant to corrosion than copper and having mechanical properties no less suitable.

Compliance is checked by inspection if need chemical analysis.

6. Enclosure

6.1 Data sheet for FLRY-B wire

DATA SHEET

FLRY

FLRY-A Automotive low voltage cable (FL) with reduced thickness of insulation (R) made of PVC (Y), with regularly stranded conductor (A)

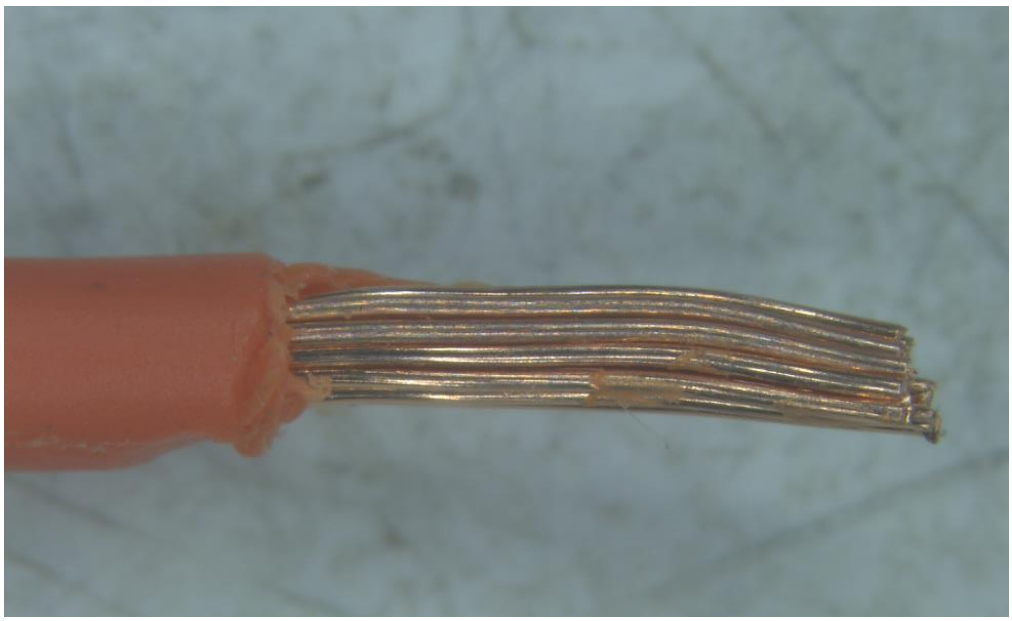
FLRY-B Automotive low voltage cable (FL) with reduced thickness of insulation (R) made of PVC (Y), with irregularly stranded conductor (B)

Application Single-conductor automotive cable designed for electric installations in vehicles.

Technical data

Conductor:	Cu-ETP1 (acc. to EN13602), multi wire, flexible (acc. to ISO 6722-1)
Insulation:	PVC, class B (acc. to ISO 6722-1)
Sheath:	Not applicable
Temperature range:	-40°C ÷ +105°C
Standards:	ISO 6722-1; DIN 72551-6; ECE-R 118 Cables conform to the requirements of REACH Regulation and RoHS Directive.

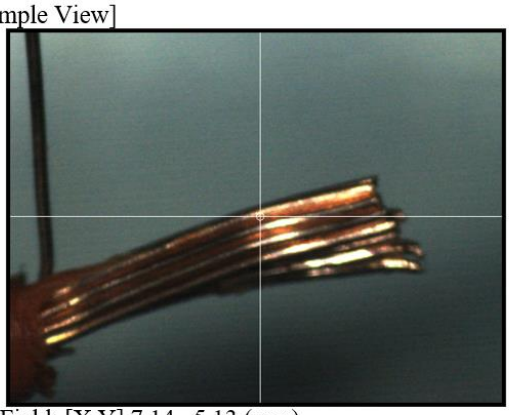
6.2 Wire inspection under microscope



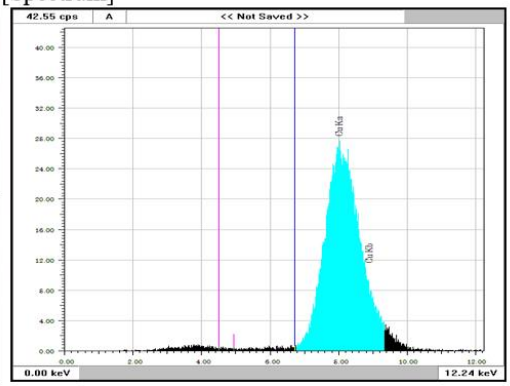
6.3 Wire material analysis

Example 1

[Sample View]



[Spectrum]



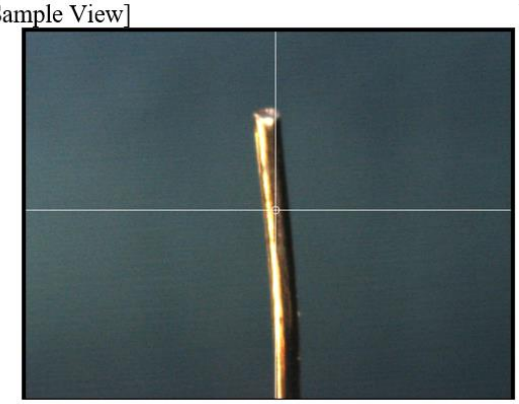
Field: [X Y] 7.14 5.13 (mm)

[Result]

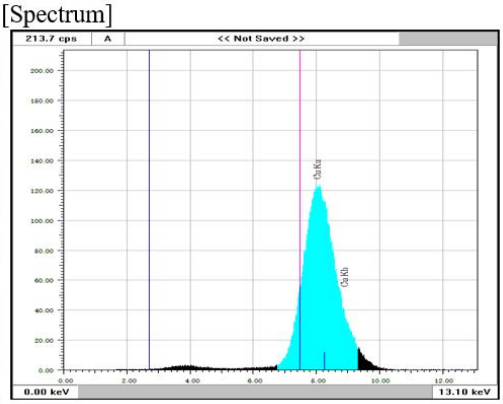
Z	Elem	Elem Name	Line	A cps	ROI keV
29	Cu	Copper	Ka	1669.007	6.77- 9.31

Example 2

[Sample View]



[Spectrum]



Field: [X Y] 7.17 5.13 (mm)

[Result]

Z	Elem	Elem Name	Line	A cps	ROI keV
29	Cu	Copper	Ka	7625.267	6.77- 9.31