AC 117

INSTYTUT ENERGETYKI
Instytut Badawczy
01-330 Warszawa, ul. Mory 8
tel. +48 22 34 51 299
fax. +48 22 836 63 63
instytut.energetyki@ien.com.pl

CERTIFICATE OF CONFORMITY

No. DZC.522.55.2022

Issue No. 01 of 2022.06.09

Name and address of the certificate holder:	**Zakład Aparatury Elektrycznej ERGOM Sp. z o.o. 10 Nowe Sady Str., 94-102 Łódź, Poland**
Name of the product:	**Terminal lugs**
Type:	**K45R 10-240, K90R 10-240**
Manufacturer:	**Zakład Aparatury Elektrycznej ERGOM Sp. z o.o. 10 Nowe Sady Str., 94-102 Łódź, Poland**
Parameters and application of the product:	**According to appendix Termination of copper cables with class 2 conductors with parameters according to appendix**
The product meets requirements of:	**EN IEC 61238-1-1:2019, EN IEC 61238-1-3:2019**
According to the reports made by:	**SEP-BBJ; Instytut Energetyki; ZAE ERGOM**
Number of the test reports:	**LA-18.134/2, LA-18.134/1; EWP/35/E/2017-11, EWP/35/E/2018-14, EWP/35/E/2019-22, EWP/35/E/2018-17; ERGOM/08/01/2018, ERGOM/15/12/2018, ERGOM/21/10/2019, ERGOM/16/01/2019**
Period of validity:	**from 9th of June 2022 until 8th of June 2025**

The right to use the certificate of conformity within its validity period applies only to:

- **these copies that meet the requirements specified above and have the same characteristics (parameters) as the model / product samples submitted for testing,**
- **certificate holder or his authorized representative.**

The list of evidenced parameters is included in the appendices to the certificate of conformity.
Number of appendices: 1

THE SYSTEM OF PRODUCT CERTIFICATION PC_1a (Program 1a acc. to PN-EN ISO/IEC 17067:2014-01)
(product parameters confirmed by type test)

Warsaw, 2022.06.09

DIRECTOR OF
INSTYTUT ENERGETYKI
dr hab. inż. Tomasz Gałka prof. IEn

AC 117

APPENDIX TO CERTIFICATE OF CONFORMITY
No. DZC.522.55.2022
Issue No. 01 of 2022.06.09

LIST OF EVIDENCED PARAMETERS

Cu terminal lugs[1] of type	K45R 10-240	K90R 10-240
Class - electrical - mechanical	 A 1	 A 1
Construction / cross-section of Cu cables / conductors [mm^2]	RMC[2], RM, SM / 10÷240	RMC[2], RM, SM / 10÷240
Initial scatter δ[3]	≤ 0,30	≤ 0,30
Mean scatter β[4]	≤ 0,30	≤ 0,30
Resistance factor ratio λ[5]	≤ 2,0	≤ 2,0
Change in resistance factor D[6]	≤ 0,15	≤ 0,15
Maximum temperature θ_{max}[7]	≤ θ_{ref}	≤ θ_{ref}
Permissible tensile force [N]	≤ 60 x A[8] Cu	≤ 60 x A[8] Cu

NOTES:

1) [1] Terminal lugs of type K45R 10-240 and K90R 10-240 has common name of: Tubular angle terminals, K45R type and K90R type
2) [2] In the technical documentation of cable and wire manufacturers, the RMC designation is also known as RMV
3) [3] The average value of the resistance factors of six connectors (lugs) before the first heating cycle.
4) [4] The average value of the resistance factors of six connectors (lugs) calculated from last 11 measurements readings. It specifies if all connectors (lugs) of given type are characterized by similar changes in resistance during the heat cycles.
5) [5] Resistance factor ratio of tested connector (lug) during the heat cycle test in relation to the initial resistance factor.
6) [6] The value specifies the size of the resistance factor change based on last 11 measurements readings.
7) [7] Temperature of the connector (lug) referenced to the temperature of the reference section.
8) [8] Nominal cross-sectional area