

# TEST CERTIFICATE

**issued to:** EAE Elektrik Asansör End.  
İnsaat San. ve Tic. A.Ş.  
Akçaburgaz Mahallesi 119, Sokak No: 10  
34510 Esenyurt / İstanbul  
Turkey

**For the product:** Low-voltage busbar trunking system

**Trade name:** EAE

**Type/Model:** KAP 06

**Ratings:**  $I_{nc}$  63 A at 50 Hz,  $U_i$  690 V,  $U_{imp}$  6 kV,  $I_{cw}$  4 kA - 0,1 s  
For more details see annex

**Manufactured by:** EAE Elektrik Asansör End.  
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**Subject:** Design verification

**Requirements:** IEC 61439-6: 2012  
Clauses: 10.2, 10.3, 10.4, 10.5, 10.9, 10.10, 10.11, 10.101 and  
Annex BB, CC, and DD

**Remarks:** Busbar trunking system consists of feeder box, joint and straight lengths

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 2172380.04-INC, dated 4 May 2015.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Arnhem, 4 May 2015

Number: 2172380.103

DEKRA Certification B.V.

F.S. Strikwerda  
Certification Manager

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**Overview of product evaluation according to IEC 61439-6:**

IEC 61439-6 Clause	Clause description	Tested ratings	Results
10.2	Strength of material and parts		
10.2.2	Resistance to corrosion	Severity test A: indoor	Pass
10.2.3	Properties of insulating materials		
10.2.3.1	Verification of thermal stability of enclosures	Cover of tap-off facility	Pass
10.2.3.2	Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Insulating materials retaining current-carrying parts in position: 960 °C Other insulating materials: 650 °C	Pass
10.2.6	Mechanical impact	IK 07	Pass
10.2.7	Marking		Pass
10.2.101	Ability to withstand mechanical loads		
10.2.101.1	Test procedure for a straight busbar trunking unit	Heavy loads	Pass
10.2.101.2	Test procedure for a joint	Heavy loads	Pass
10.2.101.3	Resistance of the enclosure to crushing	Heavy loads	Pass
10.3	Degree of protection of assembly	IP55	Pass
10.4	Clearances and creepage distances	Clearances > 5,5 mm, based on $U_{imp} = 6 \text{ kV}$ ; Creepage distances > 10,0 mm, based on $U_i = 690 \text{ V}$ , pollution degree 3, material group IIIa.	Pass
10.5	Protection against electric shock and integrity of protective circuits		
10.5.2	Effective earth continuity between the exposed conductive parts of the assembly and the protective circuit	Earth resistance < 0,1 $\Omega$	Pass
10.5.3	Short-circuit withstand strength of the protective circuit	$I_{cw} 4 \text{ kA} - 0,1 \text{ s}$ with 9 kA peak	Pass
10.9	Dielectric properties		
10.9.2	Power-frequency withstand voltage	$U_i 690 \text{ V}$	Pass
10.9.3	Impulse withstand voltage	$U_{imp} 6 \text{ kV}$	Pass
10.10	Verification of temperature rise		
10.10.2.3.5	Test of a BT run	63 A	Pass
10.11	Short-circuit withstand strength	$I_{cw} 4 \text{ kA} - 0,1 \text{ s}$ with 9 kA peak (3-phase and neutral)	Pass
10.101	Resistance to flame-propagation	Flame application time 40 min	Pass

IEC 61439-6 Clause	Clause description	Tested ratings	Results																		
Annex BB	Phase conductor characteristics	$[m\Omega/m]$ X : 0,16 R <sub>20</sub> : 1,56 R : 1,91 Z <sub>20</sub> : 1,57 Z = Z <sub>(1)</sub> = Z <sub>(2)</sub> : 1,92	Pass																		
Annex CC	Fault-loop zero-sequence impedances	<table border="0"> <tr> <td></td> <td>Phase to Neutral [mΩ/m]</td> <td>Phase to Earth [mΩ/m]</td> </tr> <tr> <td>X<sub>(0)bx</sub> :</td> <td>0,77</td> <td>1,07</td> </tr> <tr> <td>R<sub>(0)bx</sub> :</td> <td>6,01</td> <td>5,52</td> </tr> <tr> <td>R<sub>(0)bx</sub> :</td> <td>7,39</td> <td>6,78</td> </tr> <tr> <td>Z<sub>(0)bx</sub> :</td> <td>6,06</td> <td>5,62</td> </tr> <tr> <td>Z<sub>(0)bx</sub> :</td> <td>7,43</td> <td>6,87</td> </tr> </table>		Phase to Neutral [mΩ/m]	Phase to Earth [mΩ/m]	X <sub>(0)bx</sub> :	0,77	1,07	R <sub>(0)bx</sub> :	6,01	5,52	R <sub>(0)bx</sub> :	7,39	6,78	Z <sub>(0)bx</sub> :	6,06	5,62	Z <sub>(0)bx</sub> :	7,43	6,87	Pass
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Annex DD	Fault-loop resistances and reactances	<table border="0"> <tr> <td></td> <td>Phase to Phase [mΩ/m]</td> <td>Phase to Neutral [mΩ/m]</td> <td>Phase to PE [mΩ/m]</td> </tr> <tr> <td>X<sub>bx</sub> :</td> <td>0,21</td> <td>0,24</td> <td>0,27</td> </tr> <tr> <td>R<sub>b2)bx</sub> :</td> <td>2,98</td> <td>2,99</td> <td>2,81</td> </tr> <tr> <td>R<sub>bx</sub> :</td> <td>3,67</td> <td>3,68</td> <td>3,45</td> </tr> </table>		Phase to Phase [mΩ/m]	Phase to Neutral [mΩ/m]	Phase to PE [mΩ/m]	X <sub>bx</sub> :	0,21	0,24	0,27	R <sub>b2)bx</sub> :	2,98	2,99	2,81	R <sub>bx</sub> :	3,67	3,68	3,45	Pass		
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**Product details:**

Busbars		
3-phase		Tin plated Copper wire 4 mm diameter
Neutral		Tin plated Copper wire 4 mm diameter
PE		Trunking enclosure

Note: The operational current ratings above are given at 50 Hz, operational currents current at 50 Hz are applicable to 60 Hz for rated currents up to and including 800 A. For currents above 800 A, the rated current at 60 Hz shall be reduced to 95 % of that at 50 Hz (IEC 61439-1 clause 10.10.2.3.1).