Certificate No: **2601231712158034**
TL Project No: **25-3651**

TYPE APPROVAL CERTIFICATE

This is to certify that the

BUSBAR FOR MARINE TYPE SWITCHBOARDS

Manufacturer	:	**TEMPA PANO SANAYİ VE TİCARET ANONİM ŞİRKETİ**
Address	:	**Makine İhtisas OSB. Demirciler Mahallesi 2. Cadde No:1 / 41455**
Product Type	:	**K-BAR**
Reference Rule	:	**TL Rules, Part E, Chapter 105 - Naval Ship Technology, Electrical Installations, 01.01.2022** **TL Rules, Part B, Chapter 5, Electric , 01.01.2024** **IACS UR E10 Rev.9 , 09.08.2023** **IEC 61439-1:2021 Low-voltage switchgear and controlgear assemblies General rules, 25.08.2022** **IEC 61363-1:1998 Electrical installations of ships and mobile and fixed offshore units , 01.02.1998**

Subject to the conditions referred to in the following pages, this certificate is valid until **16.10.2030**

Surveyor: **İbrahim Evren DAL**

Busbar Type

38mmx36mm (Nominal Current: 1600A)
64mmx36mm (Nominal Current: 2500A)
100mmx36mm (Nominal Current: 3200A)

Issued at **İstanbul** on **26.01.2026**

This document is electronically signed and does not require a manual signature

Click here for the verification website

Emrah SÖĞÜTÇÜ
New Building Division Manager
TÜRK LOYDU

Expire Date of Previous Certificate: 16.10.2025

For Information Only

This certificate is subject to terms and conditions described below:
Any significant change in design or construction may render this Certificate invalid. Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

Product	**: BUSBAR FOR MARINE TYPE SWITCHBOARDS**
Type of Product	**: K-BAR**
Approval No / Date	**: PAE-EPAS/023606/25-3651/MY , 15.01.2026**
Documentation	**: Test report issued by BÜYAL (AB-0479-T R.0002-13 01-13)** **Test report issued by LVT (AB-0341-T LVT.D.15-0216-R100 04-15)**
Performed Tests	**: Short circuit withstand test** **Dielectric strength test** **Isolation resistance measurement** **Flame retardant test** **Conductivity test** **Temperature rise test** **Quality Document** **Dimension check**
Test Place	**: Tempa Pano Dilovası-Kocaeli**
Last Inspection Date	**: 23.01.2026**
Application/Limitation	**: Short circuit calculation according to IEC 61363-1 and mechanical strength calculation according to IEC 60865-1 has to submitted to Türk Loydu for each case where used in switchboards with connected generatır power is over 500kVA.**
Approval Conditions	**: Manufacturer of switchboard shall confirm to installation distance stated by manufacturer of isolator/support for busbars, creepage distances and clearances according to Türk Loydu rules and IEC 60439-1**

For Information Only