Certificate no.:
TAA00003FR

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Window Wipers

with type designation(s)
PG-Ext and PG.3F with single and double arm

issued to
Speich S.r.l.
Genova, GE, Italy

is found to comply with
DNV rules for classification – Ships

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2024-09-02**
This Certificate is valid until **2029-09-01**.
DNV local unit: **Italy/Malta CMC**

for **DNV**

Approval Engineer: **Tommi Juhani Rifaat**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Window wipers PG-Ext and PG.3F with single and double arm consists of following components:

Component	Type	Location	Remark
Straight line Wiper Mechanism with motor unit	PG.3F with internally mounted motor	Exposed	Motor unit shall be mounted in protected area
	PG-Ext with externally mounted motor	Exposed	
Control Unit	Control unit DCS	Protected	
Control Panel	Keypad DCS.ST	Protected	

Application/Limitation

- For marine and offshore applications.
- The window wipers shall be installed in accordance with manufacturer's documents
- When installed on ships with class notation NAUT(OC) / NAUT(AW) / NAUT(OSV), the window wipers shall comply with minimum coverage and speed/frequency requirements described in the relevant class notation rules.

Type approval documentation

DNV No	Drw No	Rev	Title
45	TR-19037-01	07/03/2019	Report: Speich, IEC60945 Inclination Test Report
44	11-067	05-07-2011	Report: Politecna S.a.S, E.22 IEC 60945 11.1 Test Report
43		15-06-11	Report: Speich, P.7, ISO 17899 12 (Durability) Test Report
42		19-03-13	Report: Speich, P.6, ISO 17899 11 (de-icing) Test Report
41		05-11-12	Report: Speich, P.10, ISO 17899 15 (Saltwater) Test Report
40		11-10-19	Report: Speich, P.9, ISO 17899 14 (Temperature) Test Report
39	691	2011-03-15	Report: BSH, E.23 IEC 60945 11.2 Test Report
38	No. 13-4963	2013-02-25	Report: Paconsult, E.10 IEC 60945 8.7 and ISO 17899 16 & 17 Test Report
37	0403/2013	2013-04-24	Report: EMC S.r.l, IEC 60945 9.2, 10.3, 10.9 Test Report
36	0701/2011	2011-06-25	Report: EMC, E.14 IEC 60945 9.3 Test Report
35	WTD 71-330-130	2013-02-18	Report: Bundeswehr, E.12 MIL STD 810 Salt Spray Test Report
34	No. 14-5745	2014-02-06	Report: Paconsult, E.11 IEC 60945 8.8/ IP 67 Test Report
33	IEC60945_6.1	15/06/2019	Report: Speich, E.2 IEC 60945 6.1 Test Report
32		20/10/2011	Report: Speich, E.9 IEC 60945 8.4 Test Report
31	0408/2019	1.0	Report: ECM S.r.l, E.8 IEC 60945 8.3, 9.3, Test Report
30	TR-190307-00	07/03/2019	Report: Speich, E.7 IEC 60945 8.2 Test Report
29	IEC60945_6.2	15/06/2019	Report: Speich, E.2 IEC 60945 6.2 Test Report
28	E6_60945	12-07-2024	Report: Speich, E.6 IEC 60945 7.2 Test Report
26	E.20_60945	12-07-2024	Report: Speich, E.20 IEC 60945 10.8 Test Report
25			Report: Speich, P.6 ISO 17899 11 (De-icing) Test Report
24	P2_17899	12/07/2024	Report: Speich, P.2 ISO 17899 7 (Speed) Test Report
23	P3_17899	12/07/2024	Report: Speich, P.3 ISO 17899 8 (Wiper quality) Test Report
22	VR2440901SPMT_0.doc	0	Report: Centrotecnica, IEC 60945 8.7 (vibration) Test Report
2		Issue 2023	Manual: Speich, PG.3F Technical Manual
1		Issue 2020	Manual: Speich, PG-Ext Technical Manual

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance testing: ISO 17899 (2004)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.
The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.
This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com