



Certificate No:
TAF00001JF

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class B Recesses for Light Fittings, Ventilation Units and similar

with type designation(s)

Light Fixtures, models: F(LE)C-2180N-B0, F(LE)C-2360N-B0, F(LE)W-2180N-B0, F(LE)W-2360N-B0, DNL-F(LE)18-B0

Issued to

WOOSHIN APEC CO.,LTD. (Gimhae Plant)

Gimhae-si, Gyeongsangnam-do, Korea, Republic of

is found to comply with

DNV rules for classification – Ships

DNV offshore standards

DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021

Application :

Approved for use in B-0 class ceilings.

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

Issued at **Høvik** on **2021-11-24**

This Certificate is valid until **2026-11-23**.

for **DNV**

DNV local station: **Gimhae Station**

Approval Engineer: **Marcin Tobiasz**

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Helene David-Andersen
Head of Section

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 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Page 1 of 3

Product description

"F(LE)C-2180N-B0, F(LE)C-2360N-B0, F(LE)W-2180N-B0, F(LE)W-2360N-B0, DNL-F(LE)18-B0"

Light fixtures installed in cut-outs in B-0 ceilings. The light fixtures are composed of 1 mm galvanized steel body fastened to the ceilings by means of bolting. The light fixtures F(LE)C2180N-B0, F(LE)C2360N-B0 and DNL-F(LE)18-B0 are covered with 1 mm galvanized steel cover.

For further details, see drawings listed under Type Approval documentation below.

Application/Limitation

Approved for use in B-0 class ceilings.

Type	Max size (L x W x H) [mm]	Max weight [kg]
F(LE)C-2180N-B0 (FC-2180N-B0, FC-2181N-B0, FC-1180N-B0, FC-1181N-B0, FC-2180S-B0, FC-2181S-B0, FC-1180S-B0, FC-1181S-B0, LEMC-1250N-B0, LEMC-1258N-B0, LEMC-1250S-B0, LEMC-1258S-B0, LEMC-2200N-B0, LEMC-2208N-B0, LEMC-2200S-B0, LEMC-2208S-B0, LETC-2110N-B0, LETC-2115N-B0, LETC-1110N-B0, LETC-1115N-B0, LETC-2110S-B0, LETC-2115S-B0, LETC-1110S-B0, LETC-1115S-B0)	796 x 310 x 125 (85)	5.22
F(LE)C-2360N-B0 (FC-2360N-B0, FC-2361N-B0, FC-1360N-B0, FC-1361N-B0, FC-2360S-B0, FC-2361S-B0, FC-1360S-B0, FC-1361S-B0, LEMC-2250N-B0, LEMC-2258N-B0, LEMC-2250S-B0, LEMC-2258S-B0, LEMC-4200N-B0, LEMC-4208N-B0, LEMC-4200S-B0, LEMC-4208S-B0, LETC-2180N-B0, LETC-2185N-B0, LETC-1180N-B0, LETC-1185N-B0, LETC-2180S-B0, LETC-2185S-B0, LETC-1180S-B0, LETC-1185S-B0)	1421 x 310 x 125 (85)	9.22
F(LE)W-2180N-B0 (FW-2180N-B0, FW-2181N-B0, FW-1180N-B0, FW-1181N-B0, FW-2180S-B0, FW-2181S-B0, FW-1180S-B0, FW-1181S-B0, LEMW-1250N-B0, LEMW-1258N-B0, LEMW-1250S-B0, LEMW-1258S-B0, LEMW-2200N-B0, LEMW-2208N-B0, LEMW-2200S-B0, LEMW-2208S-B0, LETW-2110N-B0, LETW-2115N-B0, LETW-1110N-B0, LETW-1115N-B0, LETW-2110S-B0, LETW-2115S-B0, LETW-1110S-B0, LETW-1115S-B0)	672.4 x 266.4 x 100	3.8
F(LE)W-2360N-B0 (FW-2360N-B0, FW-2361N-B0, FW-1360N-B0, FW-1361N-B0, FW-2360S-B0, FW-2361S-B0, FW-1360S-B0, FW-1361S-B0, LEMW-2250N-B0, LEMW-2258N-B0, LEMW-4200N-B0, LEMW-4208N-B0, LEMW-2250S-B0, LEMW-2258S-B0, LEMW-4200S-B0, LEMW-4208S-B0, LETW-2180N-B0, LETW-2185N-B0, LETW-1180N-B0, LETW-1185N-B0, LETW-2180S-B0, LETW-2185S-B0, LETW-1180S-B0, LETW-1185S-B0)	1297.4 x 266.4 x 100	6.98
DNL-F(LE)18-B0 (DNL-F18-B0, DNL-LEM15-B0, DNL-LEM25-B0, DNL-LEC15-B0)	Ø177 x 414.5 (L) x 71 (H)	1.1

The light fixtures are approved for use in approved B-0 class ceilings consisting of panels constructed by not less than 0.6 mm thick galvanized steel sheets covered by minimum 25 mm thickness insulation (density 60 kg/m³) on unexposed side.

Maximum width of panels: 300 mm

Minimum distance between the recesses should not be less than 200 mm.

The manufacturer of ceiling is responsible to document that the structural and thermal integrity is maintained after fitting the light fixtures into the ceiling.

The arrangement is subject for approval in each case.

Each product is to be supplied with its manual for installation, use and maintenance.



Job Id: **262.1-035846-1**
Certificate No: **TAF00001JF**

Type Approval documentation

Test report No. KOMERI-0402-20T3192 (E) dated 24 August 2021 from KOMERI, Pusan, Korea.
Drawing No. WSL21-B0-GAP Rev.3 (15 sheets) dated 31 May 2021 from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire technical rating.

Periodical assessment

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNV-CP-0338, Section 4.