

MARINE EMBARKATION LADDER

SOLAS / ISO 5489 Compliant Life-Saving Equipment Datasheet

Doc Ref: SPEC-MEL-2026-V1
Standard: ISO 5489:2008 / SOLAS 74
Approval: MED / Wheelmark / ABS / DNV
Date: August 2026

Product Category:	Marine Safety & Embarkation Equipment	Step Pitch:	330 ± 20 mm
Primary Application:	Safe Boarding of Survival Craft & Vessels	Bottom 4 Steps:	Steel-Lined Molded Rubber

STEP DISTANCE (PITCH) 330 ± 20 mm Uniform vertical distance between consecutive step surfaces per SOLAS standard.	MAIN STEP MATERIAL LF5 Alloy ALUMINUM High strength, corrosion-resistant marine grade aluminum alloy (or premium hardwood option).	LOWEST 4 STEPS CONSTRUCTION Rubber + Steel Line Resilient vulcanized rubber plates reinforced with heavy-duty internal steel lining.
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TECHNICAL SPECIFICATIONS

TECHNICAL PARAMETER	SPECIFICATION / DIMENSION	STANDARD / REMARKS
Distance Between Steps	330 ± 20 mm	SOLAS / ISO 5489 requirement
Step Material (Standard Steps)	LF5 Aluminum Alloy (or High-Grade Hardwood)	Seawater resistant, non-slip surface
Lowest 4 Steps Construction	Rubber plates with steel lining	Absorbs impact against vessel hull
Step Dimensions (L x W x H)	525 mm x 115 mm x 28 mm (Min.)	Non-slip grooved top surface
Side Ropes	Mildew-resistant Manila Rope / Polyolefin (Dia: 28 – 30 mm)	Min. breaking load > 24 kN (2,400 kg)
Clamping & Chocks	Corrosion-resistant aluminum alloy / Hardwood chocks	Secures steps against vertical slippage
Thimbles & Hardware	Stainless Steel AISI 316 / Hot-Dip Galvanized Steel	High corrosion resistance in marine environment
Working Load Limit (WLL)	Safe load test capacity per step: 2.2 kN	Designed for simultaneous multi-person load
Operating Temperature	-30°C to +65°C	Suitable for worldwide ocean navigation

Key Features & Structural Design

- Impact-Resistant Bottom Steps:** The lowest 4 steps are fabricated from resilient rubber with an embedded steel core plate to absorb heavy impact loads when striking the ship's side or embarkation craft.

Compliance & Certification

- SOLAS 74:** Chapter III, Regulation 11 & 38 (Life-saving Appliances and Arrangements).
- IMO LSA Code:** Chapter VI, Section 6.1 (Lifeboat & Liferaft Embarkation Appliances).

- **Anti-Slip Surface:** Each step features deep longitudinal grooves to ensure firm footing under wet and oily conditions.
- **Flexible & Durable Ropes:** Continuous side ropes without splices in the working length, treated for UV and saltwater resistance.
- **Standard Step Pitch:** Maintained at precise 330 ± 20 mm intervals to ensure comfortable and safe climbing speed during emergencies.

- **ISO 5489:2008:** Ships and marine technology — Embarkation ladders.
- **Type Approvals:** EC Marine Equipment Directive (MED / Wheelmark), Class Certifications (ABS, DNV, LR, BV, CCS).

■ STANDARD LENGTHS & ORDERING INFORMATION

MODEL CODE	TOTAL LENGTH (M)	NUMBER OF STEPS	NUMBER OF RUBBER STEPS	APPROX. WEIGHT (KG)
MEL-AL-05M	5.0 m	15	Lowest 4 steps	~18 kg
MEL-AL-10M	10.0 m	30	Lowest 4 steps	~34 kg
MEL-AL-15M	15.0 m	45	Lowest 4 steps	~50 kg
MEL-AL-20M	20.0 m	60	Lowest 4 steps	~66 kg
MEL-AL-25M	25.0 m	75	Lowest 4 steps	~82 kg
MEL-AL-30M	30.0 m	90	Lowest 4 steps	~98 kg

* Custom lengths and specific rope materials (e.g. synthetic high-tensile core) are available upon request to meet vessel-specific arrangement plans.