

MARKALINE

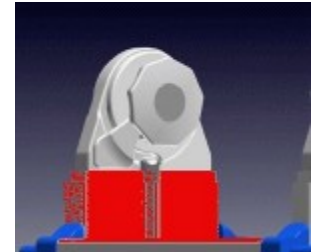
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TLI

Telescopic Step & Extension
Insulated Non-Conductive
Ladders Electrical Safe



1000 Volt a.c.



Since the appliances of ladders in electrical ambient are safety critical, we suggest preoperative tests. A microammeter shall be used for testing the dielectric current through the ladder legs with all legs bonded together at the metering point. If the measured dielectric current after 1 minute is less than 0,333 microampere for each kilovolt of nominal phase-to-phase voltage, the ladder may be placed and the work started.

	Working height cm	Height Lean-to ladder cm	Height Step-ladder cm	Weight kg	Storage cm
TLI 12 rungs	410	310	145	9	101x47x21
TLI 16 rungs	520	420	200	12	131x56x21
TLI 20 rungs	630	530	255	15	158x64x21
TLI 24 rungs	740	640	310	19	189x71x21

Components: (AL) Aluminium, patented coating (RAL 3020)
(FE) Steel, galvanized (non-conductive upon request)
(PA) Nylon, (RAL 5010)
(PA) Nylon, (RAL 3020)
(PA) Nylon, reinforced with glass fibers, (RAL 7038)
(PVC) Polyvinyl chloride, (RAL 5010)
(PE) Polyester, auto adhesive
(PC) Polycarbonate, auto adhesive

Test Results: **Dielectric Strength:**
47.8 KV/mm at 370 microns coating (IEC 243; VDE 0303)
9 KV at 150 microns coating (DIN EN 131-2:2005 test proposal)
Volume Resistivity: 3×10^{17} Ohm/cm (IEC 93)
Surface Resistivity: $5,1 \times 10^{15}$ Ohm at 200 microns coating (IEC 93)
Salt Spray Aluminium – Scribed: No loss of adhesion – Unscribed: No loss of adhesion. (ISO 7253)
Environmental Stress Cracking: Greater than 1000 hrs (ASTM D1693)
Weathering: No significant change in colour or loss of gloss (QUV ASTM G53-77: 2000 hrs)
Abrasion Taber: 60 mg weight loss (ASTM D4060/84 H18, 500g load, 1000 cycles)
Abrasion of grooved rungs: loss of gloss, no visible abrasion (300 working hours – working conditions: open air, non-ferrous shoes)



Telescopic Step & Extension Ladders	TLI 12 4 x 3 rungs	TLI 16 4 x 4 rungs	TLI 20 4 x 5 rungs	TLI 24 4 x 6 rungs
Max. height Lean-to ladder	3.10 m	4.20 m	5.30 m	6.40 m
	10 ft	14 ft	17 ft	21 ft
Max. height Stepladder top rungs	133 cm	186 cm	238 cm	294 cm
	5 ft	7 ft	8 ft	10 ft
Weight	9.50 kg	12 kg	15.50 kg	20 kg
	21 lb	26.455 lb	34.72 lb	44.092 lb
Duty rate	150 kg	150 kg	150 kg	125 kg
	331 lb	331 lb	330.693 lb	275.577 lb
Rung distance	28 cm	28 cm	28 cm	28 cm
	11.024 in	11.024 in	11.024 in	11.024 in
Storage	21 x 48 x 100 cm	21 x 56 x 131 cm	21 x 64 x 158 cm	21 x 71 x 189 cm
	8.268 x 18.898 x 39.37 in	8.268 x 22.047 x 51.57 in	8.268 x 25.197 x 62.21 in	8.268 x 27.953 x 74.41 in
Max. spacing ground floor Stepladder	48 x 108 cm	56 x 146 cm	64 x 177 cm	71 x 216 cm
	18.898 x 42.52 in	22.047 x 57.48 in	25.197 x 69.689 in	27.953 x 85.039 in
Max. spacing ground floor Lean-to ladder	48 cm	56 cm	64 cm	71 cm
	18.898 in	22.047 in	25.197 in	27.953 in

Utility

1. For electrical utilities (low voltage)

- best for electrical utilities up to 1000 Volts a.c.
- standard version: all aluminium parts are insulated, except steel hinge and steel rivets.
- marine version: all aluminium parts + facing parts of steel hinge and steel rivets are insulated.
- substitute fibreglass and wood ladders

2. For applications in food, drug, clean-room, HACCP fields

- brilliant surface
- no water absorption
- no absorption of grease
- no aluminium oxidation
- coating FDA approvals (food and water)
- coating very low toxicity on burning
- substitute steel ladders

3. For Firemen

- signals thermal shock exposition by change of colour over 315°C / 600°F. Aluminium alloys used in ladders are high tensile alloys for lighter weight and greater strength. Because of this, these alloys have been heat treated when manufactured to get the aluminium to its final tensile strength. If the aluminium ladder has been subjected to extreme heat exposure - even for a brief period -, the load capacity may be reduced even though the aluminium without "Star"-coating would show no sign of any change.
- non slip coating
- with soft and warm touch feeling
- heat insulating up to 90°C
- all burning parts (PVC-feet, PA-rung covers, PA-handles) can be replaced manually in field

4. For applications in the Marine- and Offshore Industry

- example: helicopter rescue equipment