



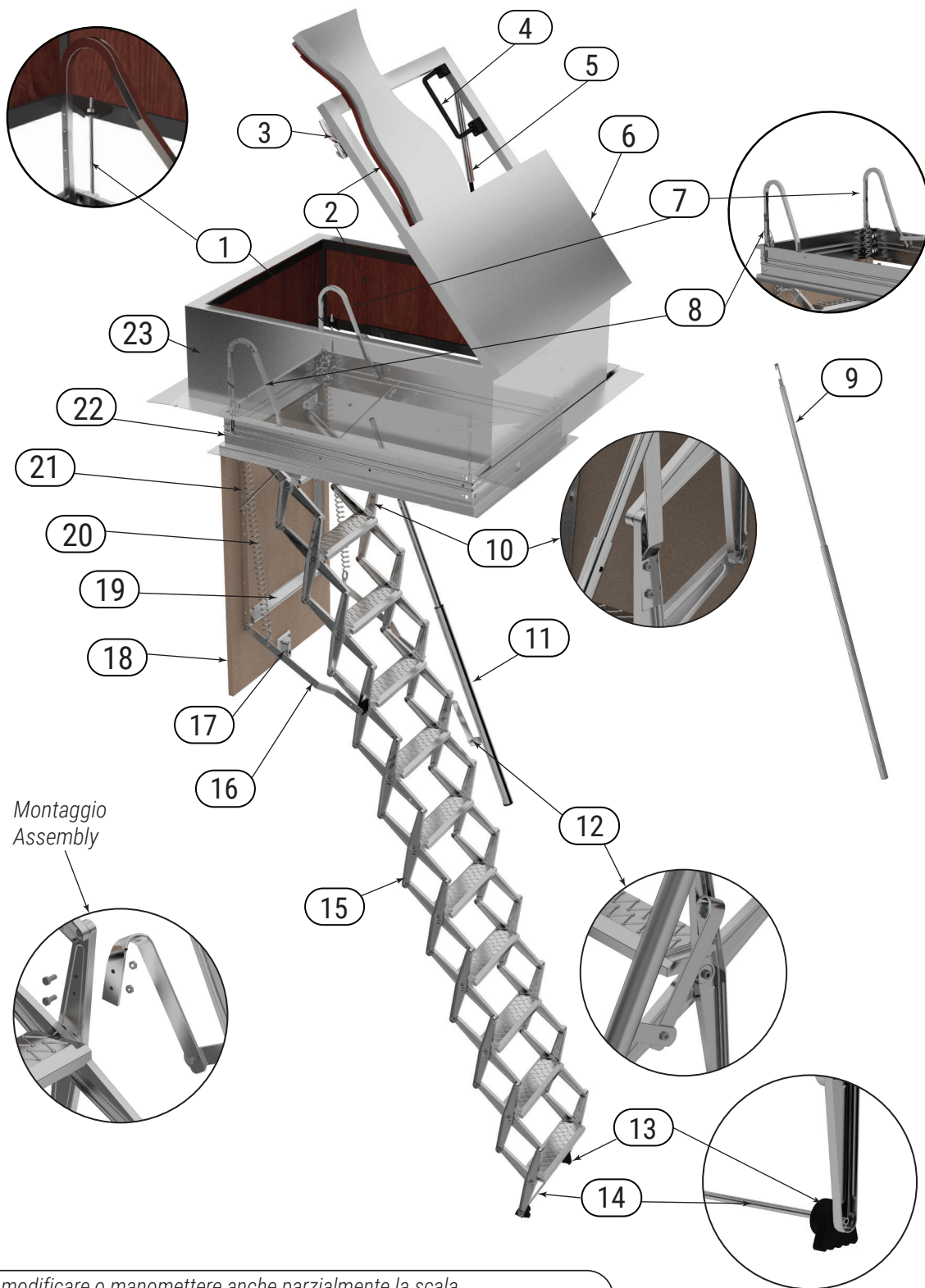
Scala Retrattile Pantografo Terrazza Pantograph Terrace Ladder

Descrizione

- 1 - Tenditore di sostegno
- 2 - Pannello truciolare
- 3 - Leve apertura
- 4 - Maniglia
- 5 - Molla a gas
- 6 - Copertura zincata a caldo
- 7 - Ancoraggio di discesa DX
- 8 - Ancoraggio di discesa SX
- 9 - Asta di Apertura
- 10 - Supporto dritto
- 11 - Sostegno di salita destro
- 12 - Supporto curvo
- 13 - Piedino antiskid
- 14 - Barra stabilizzatrice
- 15 - Pacco scala
- 16 - Supporto gruppo scala
- 17 - Chiusura a grillo
- 18 - Pannello truciolare
- 19 - Omega sagomato
- 20 - Molla di trazione
- 21 - Elle di tenuta
- 22 - Nervo-Telaio 12/10 Zn
- 23 - Copertura zincata a caldo

Description

- 1 - Turnbuckle support
- 2 - Chipboard panel
- 3 - Openings levers
- 4 - Handle
- 5 - Gas spring
- 6 - Hot- dipped galvanized roof
- 7 - Right rail anchorage
- 8 - Left rail anchorage
- 9 - Pull down pole
- 10 - Straight support bar
- 11 - Right handrail
- 12 - Curved support bar
- 13 - Antiskid
- 14 - Stabilizer bar
- 15 - Staircase pack
- 16 - Cluster group support
- 17 - Cricket rock
- 18 - Chipboard panel
- 19 - Omega crossbar locking
- 20 - Pull spring
- 21 - "L" base
- 22 - Staircase frame 12/10 Zn
- 23 - Hot- dipped galvanized roof



Montaggio
Assembly



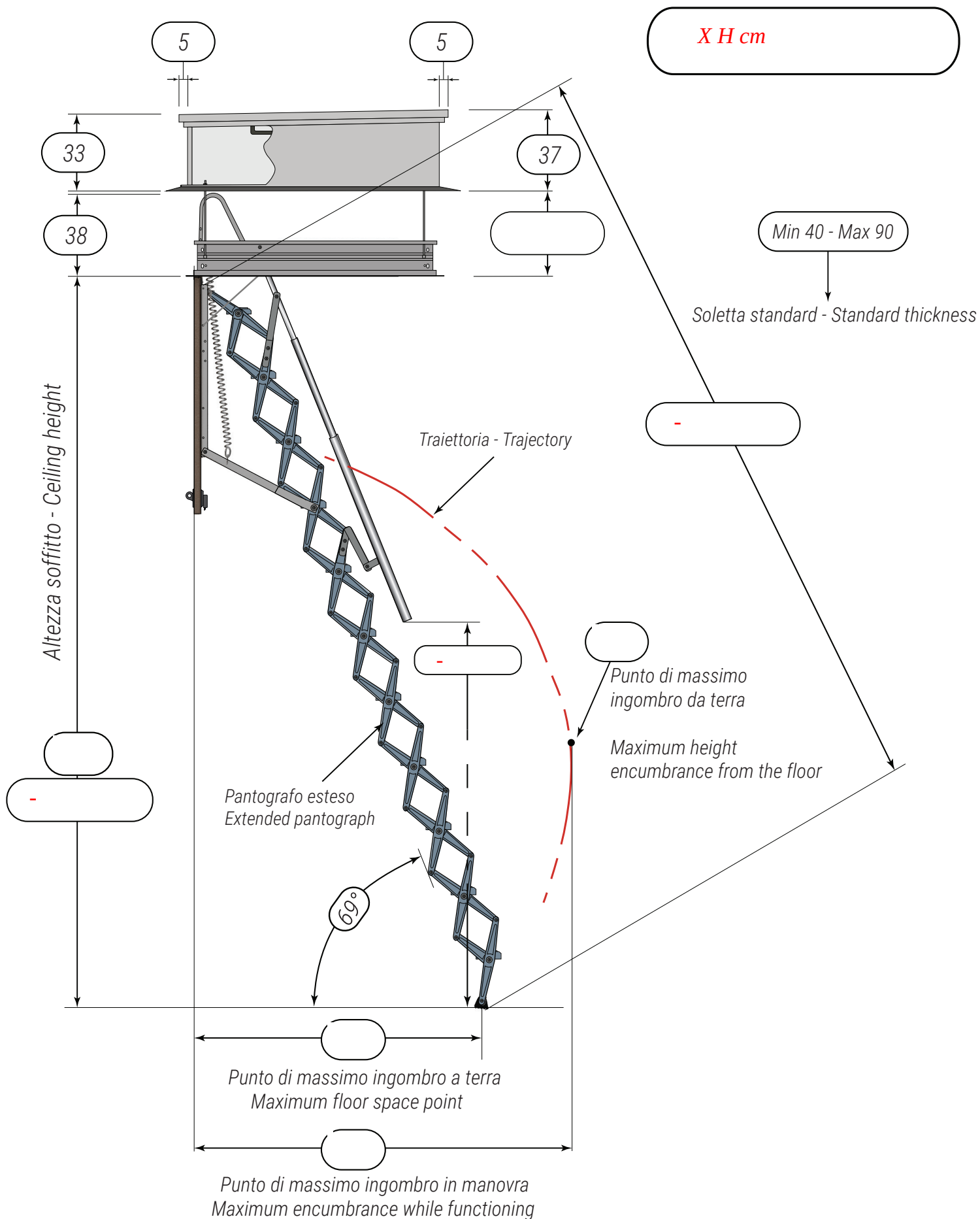
- È fatto divieto di modificare o manomettere anche parzialmente la scala.
- È fatto divieto di murare il nervo-telaio al solaio, utilizzare schiuma poliuretanica.
- Installare il nervo-telaio in bolla per garantirne un corretto funzionamento.
- Installare la scala a lavori finiti.
- Lubrificare i leverismi e tutte le cerniere della scala.
- Certificata UNI EN 14975:2010 portata Max. 260 Kg.
- Il costruttore si riserva il diritto di apporre modifiche senza alcun preavviso.

- Do not tamper or modify, even partially the ladder.
- Do not wall the ladder, use polyurethane foam.
- For a proper function install the staircase frame leveled.
- Install the ladder when the work is finished.
- Lubricate levers and hinges.
- Certified UNI EN 14975:2010 Max. weight 260 Kg.
- Manufacturer reserves the right to modify the device at any time without any prior notice



Scala Retrattile Pantografo Terrazza Pantograph Terrace Ladder

Misure espresse in centimetri - Measurements expressed in centimeters



Il costruttore si riserva il diritto di apporre modifiche senza alcun preavviso - Manufacturer reserves the right to modify the device at any time without any prior notice

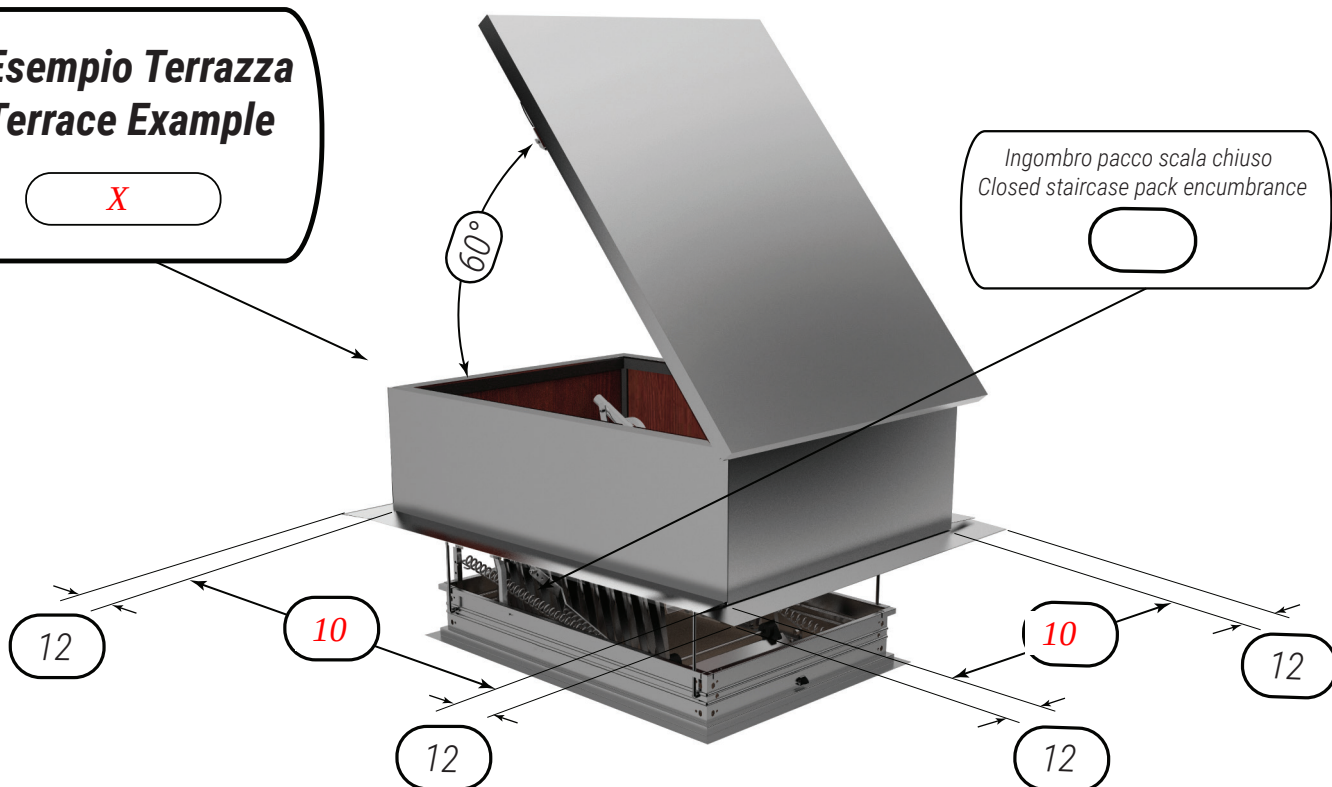


Scala Retrattile Pantografo Terrazza Pantograph Terrace Ladder

Misure espresse in centimetri - Measurements expressed in centimeters

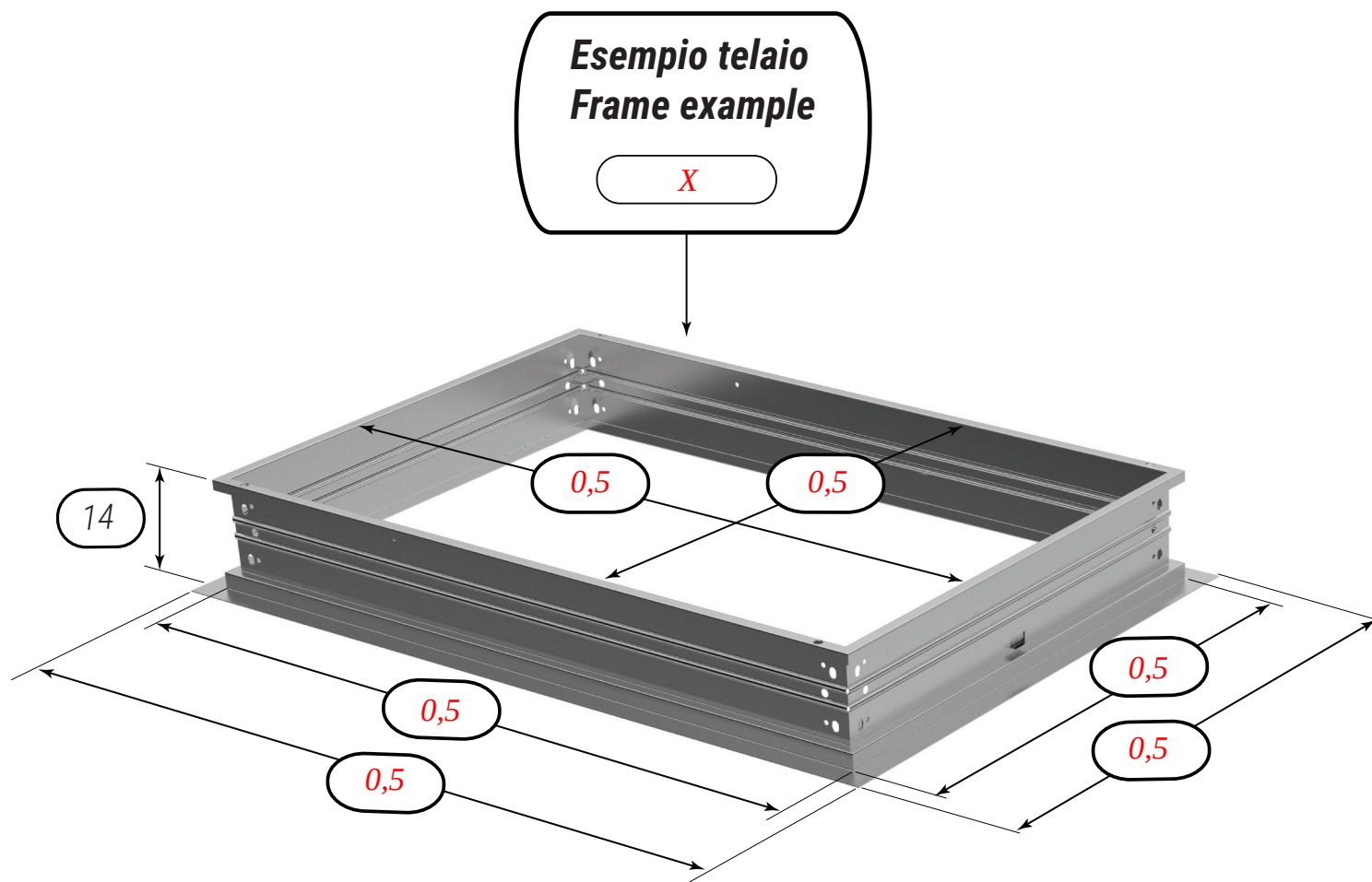
Esempio Terrazza Terrace Example

X



Esempio telaio Frame example

X

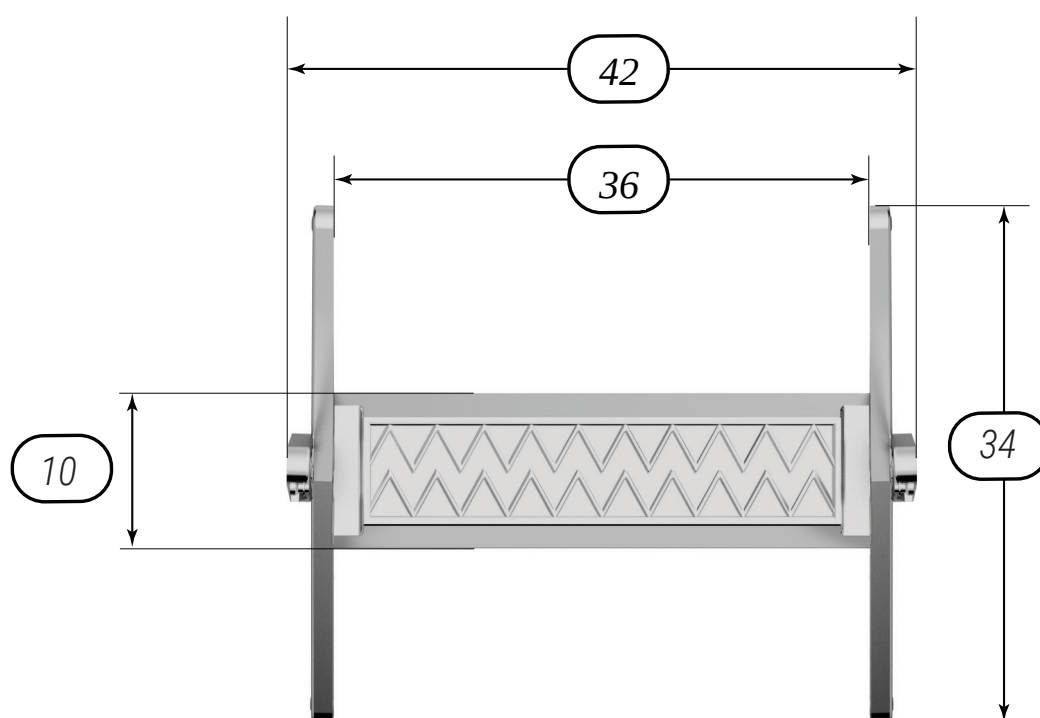
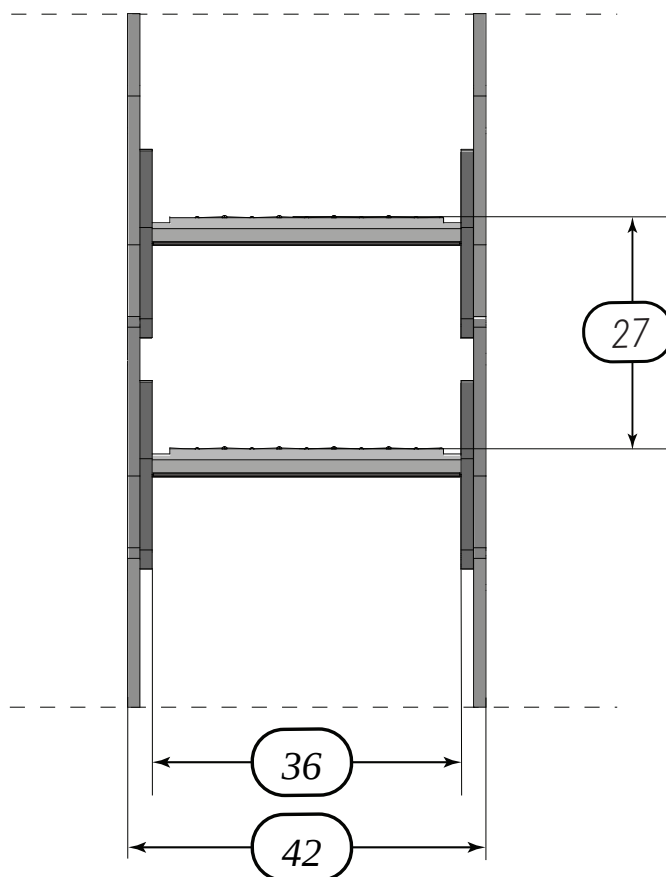
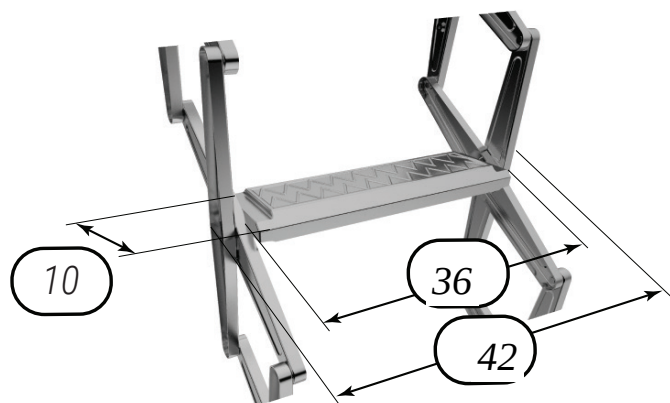


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Scala Retrattile Pantografo Terrazza Pantograph Terrace Ladder

Misure espresse in centimetri - Measurements expressed in centimeters



Il costruttore si riserva il diritto di apporre modifiche senza alcun preavviso - Manufacturer reserves the right to modify the device at any time without any prior notice



Scala Retrattile Pantografo Terrazza Pantograph Terrace Ladder

PROVA DI CARICO STATICO SU SCALA RETRATTILE SECONDO NORMA UNIEN 14975:2010 LOFT LADDER STATIC LOAD CAPACITY TESTING COMPLIANCE WITH UNIEN 14975:2010

SCHEDA DI SINTESI PROVE UNI EN 14975:2010 - SUMMARY SHEET UNI EN 14975:2010 TESTING

PROVA DI CARICO STATICO (§5.2) - STATIC LOAD CAPACITY TEST (§5.21)

PESO MASSIMO CERTIFICATO 265 kg MAXIMUM CERTIFIED WEIGHT 265 KG	CARICO SU GRADINO SUPERIORE LOAD APPLIED ON FIRST STEP		CARICO SU GRADINO CENTRALE LOAD APPLIED IN THE MIDDLE OF THE RAMP	
	Preload 1000 N 102kD	Preload 2600 H 265kg	Preload 1000 N 102kD	Preload 2600 H 265kg
TEMPO DI APPLICAZIONE (1) - APPLICATION TIME (1)	T •60 secondi - seconds	T •60 secondi - seconds	T •60 secondi - seconds	T •60 secondi - seconds
Stato delle saldature - Weldings conditions	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Stato molle - Spring conditions	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Stato staffe - Brackets conditions	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Stato tiranti - Holds conditions	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Stato del gradino - Step conditions	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Meccanismo chiusura/apertura - Opening/closing mechanism	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered	Inalterato - Unaltered
Valutazione scala - Ladder rating	CONFORME - COMPLIANT	CONFORME - COMPLIANT	CONFORME - COMPLIANT	CONFORME - COMPLIANT

PROVA DITORSIONE DEL GRADINO (§5.41- TORSION TEST OF THE STEP (§5.41)

COPPIA APPLICATA - TWISTING COUPLE	50 Nm	
Stato delle saldature a fine prova - Weldings conditions after test	Inalterato - Unaltered	
Deformazione permanente a fine prova - Permanent deformation after test	Assente - Absent	
Valutazione scala - Ladder rating	CONFORME - COMPLIANT	

PROVA DI CARICO SUL CORRIMANO (§5.5) - HANDRAIL LOAD TEST (§5.5)

CARICHI APPLICATI (2) - LOADS APPLIED (2)	100 - 400 N (10 - 41 Kg)	RAPPORTO DI PROVA : N.AT326PC/15 Sulmona,10.11.15 accettazione n. 242rp del 31.07.15
Stato degli agganci a fine prova - Anchoring supports conditions after test	Inalterato - Unaltered	
Deformazione permanente a fine prova - Permanent deformation after test	Nei limiti imposti Within the limits of the law	
Valutazione scala - Ladder rating	CONFORME - COMPLIANT	

(1) Tempo di applicazione del precarico N 1000, T = 60 secondi come da UNI EN 14975:2010

(1) Tempo di applicazione del precarico N 2600, T = 60 secondi come da UNI EN 14975:2010

(2) Carichi con direzioni ed entità come da UNI EN 14975:2010

(1) Application time of preload of N 1000, T = 60 seconds in compliance with UNI EN 14975:2010

(1) Application time of preload of N 2600, T = 60 seconds in compliance with UNI EN 14975:2010

(2) Loads applied according regulations and extents as required by UNI EN 14975:2010



Scala Retrattile Pantografo Terrazza **Pantograph Terrace Ladder**

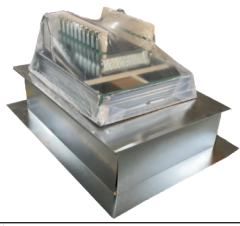
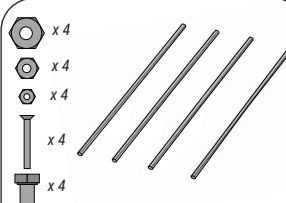
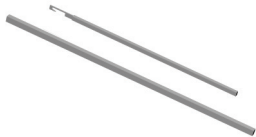
Specifiche Tecniche

- *Nervo-telaio in acciaio zincato ZN200 spessore 12/10*
- *Pacco scala in acciaio DC13 spessore 15/10*
- *Sostegno di salita tubolare Ø25 Ø30 Ø35 x1,5mm*
- *Ancoraggio di discesa zincato 15x15x1,5mm*
- *Elle di tenuta 20/10 in acciaio zincato ZN200*
- *Pannello botola in legno truciolare da 16mm*
- *Supporto gruppo scala in acciaio laminato 5mm*
- *Copertura zincata a caldo*
- *Saldatura robotizzata MIG doppio pulsato*
- *Zincatura priva di cromo-esavalente*
- *Peso Kg 40+70*

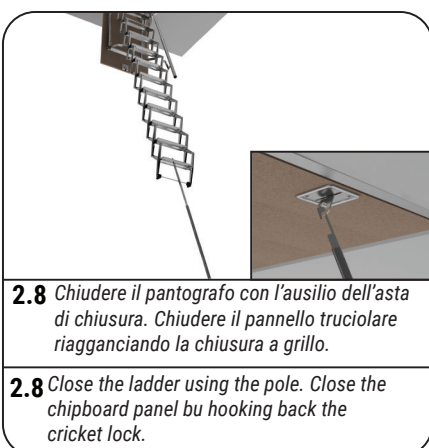
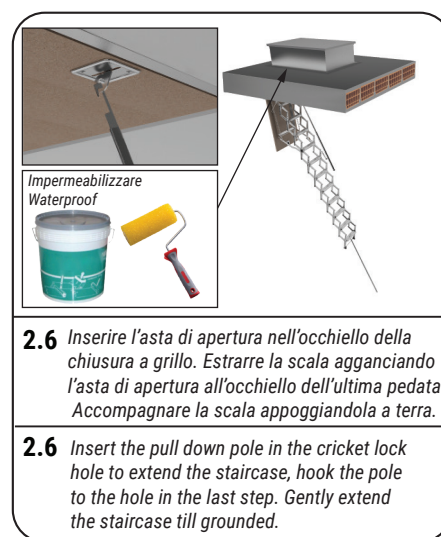
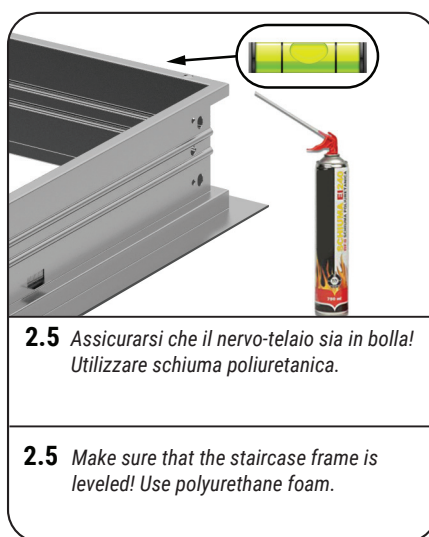
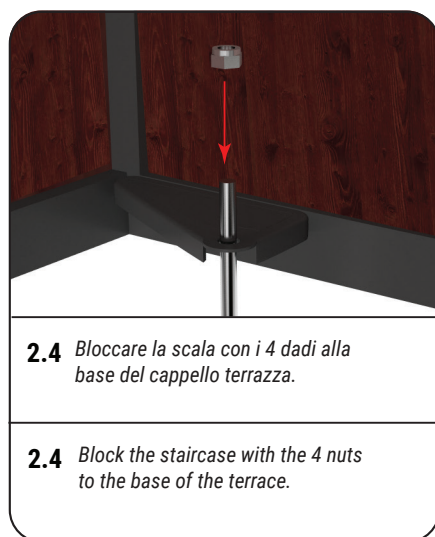
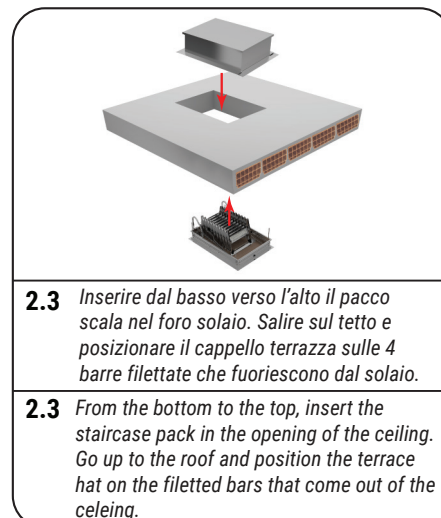
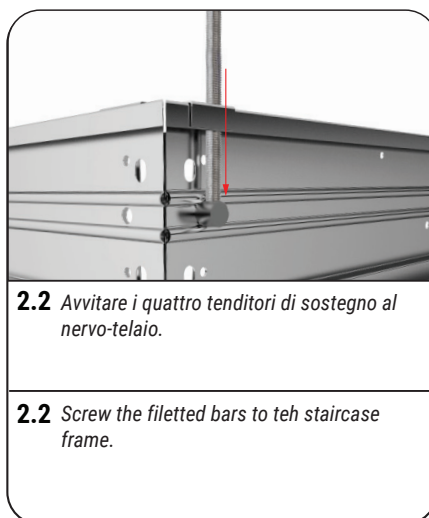
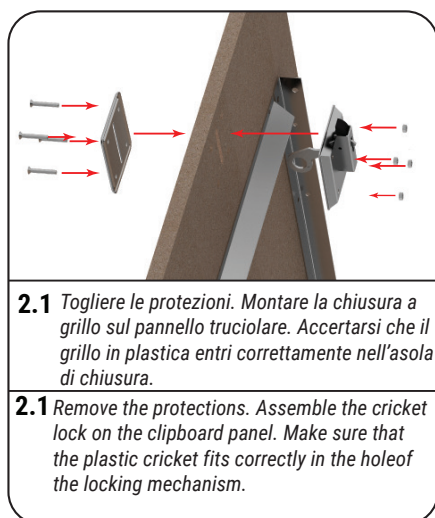
Technical specifications

- *Staircase steel frame sinew ZN200 thickness 12/10*
- *Steel staircase pack DC13 thickness 15/10*
- *Steel Handrail Ø25 Ø30 Ø35 tubular x1,5mm*
- *Rail anchorag zinc-coated 15x15x1,5mm*
- *Zinc-coated 20/10 steel 'L' base ZN200*
- *Chipboard panel 16mm*
- *Laminated steel ladder cluster group 5mm*
- *Hot-dipped galvanized roof*
- *Double pulsed MIG robotic welding*
- *Galvanization with no hexavalent chromium*
- *Weight Kg 40+70*

① Contenuto del pacco - Packaging content

 1.1 Pacco scala 1.1 Staircase pack	 1.2 Tenditori, viteria 1.2 Turnbuckle and nuts	 1.3 Chiusura a grillo. 1.3 Cricket Lock.	 1.4 Sostegno di salita (optional). 1.4 Handrail (optional).	 1.5 Asta di apertura. 1.5 Pull down pole.
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② Installazione scala - Staircase installation



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LABORATORIO TERRE E ROCCE E PROVE ESTERNE AUTORIZZATO CON D.M. N. 6571 DEL 07/10/14
LABORATORIO LEGNO AUTORIZZATO CON D.M. N. 138 DEL 30/04/15

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TEST REPORT: N.AT326PC/15
Sulmona, 10.11.15

APPROVAL N. 242RP OF THE 31.07.15

LOAD CAPACITY OF LOFT LADDER	
CLIENT:	FGM SCALE S.R.L. VIA DELL'ARTIGIANATO, 10 67039 SULMONA (AQ)
DAY OF THE TEST:	23rd OCTOBER, 2015
TEST SAMPLE:	ATTIC LADDER 70x100 H=276-300
RELEVANT LEGISLATION:	UNI EN 14975:2010 "Loft ladders – Requirements, marking and testing"
	

The current report shall be made of n. 8 pages.



ABRUZZO TEST S.R.L.

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Sede Operativa: S.S. 17 - Zona Industriale - 67039 SULMONA (AQ)

C.F. e P.IVA 01066970680

THE DIRECTORY OF LABORATORY
(Dr. Arch. Francesco Vacri)

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LOAD CAPACITY TEST REPORT

PREFACE

Tests were performed on the 23rd of October 2015 at the operating office of the Technology and Experimental Laboratory ABRUZZO TEST S.r.l., located in Sulmona.

A sample of loft ladder, provided by FGM S.r.l., has been tested. The sample is of the following type:

Attic Ladder 70 x 100 (H = 276 – 300 cm)

according to regulations throughout the legislation UNI EN 14975:2010 - "Loft ladders – Requirements, markings and testing". More in detail, the following sections have been taken into account:

- 5.2 – Static load capacity test;
- 5.4 – Torsion test of the step;
- 5.5 – Handrail load test.

The sample has been installed on a specific metal framework being positioned of 3 m from floor, in order to replicate the test conditions foreseen by law. Tests were run on the loft ladder when fully extended.

TEST EQUIPMENT

In order to carry out the test, the following equipment has been employed:

- Calibration masses of 10 and 20 kg;
- Digital dial gauge with sensitivity of 0,001 mm (last calibration 06/02/15 - expiring date 06/02/18 c/o the office SIT N.135), placed on specific sawhorse;
- Equipment for weights hanging and application of forces needed to the tests execution being indicated in the previous paragraph.

STATIC LOAD CAPACITY TEST

Load capacity test has been carried out according to the following procedure (§ 5.2):

- 1) Positioning of the equipment needed for weights hanging and for the dial gauge in order to get the measurements of deformations;

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- 2) Application of a preload of 1000 N (about 102 kg) for a time t of 60 seconds on the first step (position F_1) and measurements of horizontal deformation f as shown in figure 1:

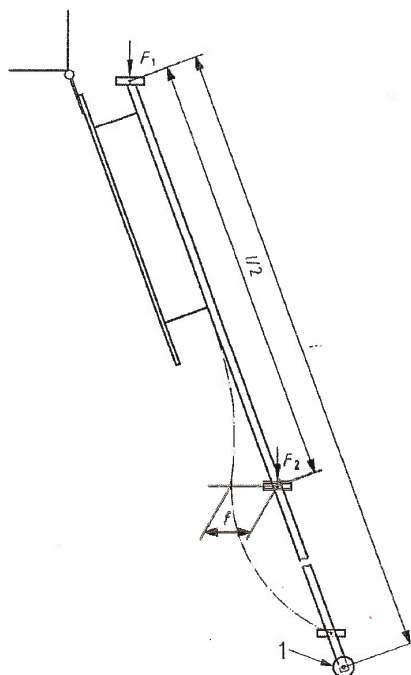


Figure 1: scheme for static load test

- 3) Application of maximum load of 2600 N (about 265 kg) for a time t of 60 seconds on the first step (position F_1), and measurements of horizontal deformation f ;
- 4) Removal of load and measurement of the remaining horizontal deformation f ;
- 5) Application of a preload of 1000 N (about 102 kg) for a time t of 60 seconds in the middle of the ramp (position F_2) and measurement of horizontal deformation f ;
- 6) Application of maximum load of 2600 N (about 265 kg) for a time t of 60 seconds in the middle of the ramp (position F_2), and measurement of horizontal deformation f ;
- 7) Removal of the load and measurement of the remaining horizontal f ;
- 8) Assessment of any possible deformations, breakages, alterations (due to loading) of every components making up the element (joints, weldings, steps, brackets);
- 9) Assessment of entirety of opening and closing mechanism of the loft ladder.

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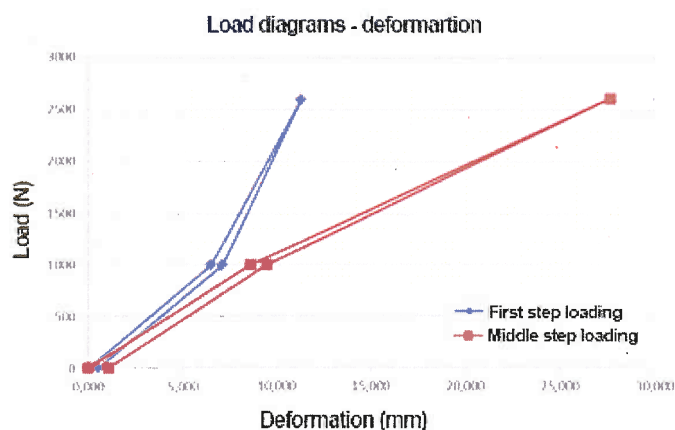
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The results of the static capacity load testing are reported in the following chart and diagram:

STAGE 1 – FIRST STEP					
	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Load (N)	0	1000	2600	1000	0
Deformation f (mm)	0,000	2,292	6,272	3,159	0,808
FASE 2 – MIDDLE STEP OF THE RAMP					
	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Load (N)	0	1000	2600	1000	0
Deformation f (mm)	0,000	6,936	15,633	7,544	1,159



The remaining and permanent horizontal deformation f has been of 1,159 mm (loading in the middle step of the ramp), which is below the allowable limit in compliance with the regulations of 15,9 mm (0,005 times the length of the loft ladder when fully extended).

No damages and/or structural failures occurred; moreover no permanent deformation of steps, neither cracks/damages nor breakages on the joints and on weldings are to be reported.

TORSION TEST OF THE STEP

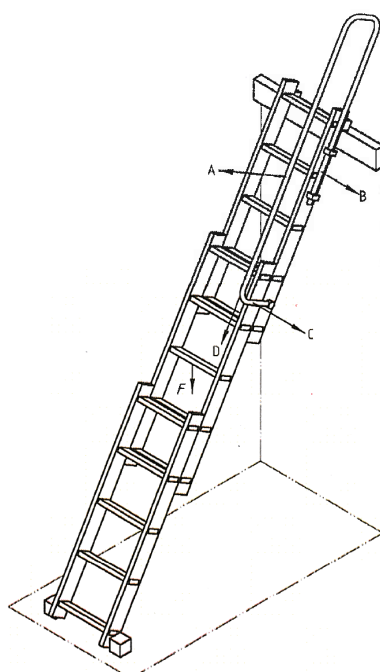
The torsion testing has been carried out by applying a twisting couple of 50 Nm in the middle of the step on a width of 100 mm.

The twisting couple was applied 10 times clockwise and 10 times counterclockwise.

After testing, neither damages of the welding between the step and the framework of the loft ladder have been identified, nor it has been measured a significant deformation by torsion.

HANDRAIL LOAD TEST

The handrail load test has been performed according to the following scheme (§ 5.5 of regulations).



Direction	Force N
Outward force A	100
Outward force B	100
Outward force C	100
Downward force D	500
Static load F	400

Figure 2: scheme for the handrail load test



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The test has been executed according to the following steps:

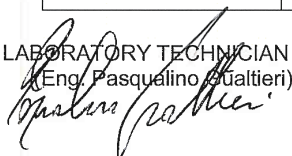
- 1) Locking of the foot of the loft ladder in order to prevent any movements during the handrail test;
- 2) Application of a load of 400 N (about 41 kg) in the middle step of the ramp, being kept in place throughout the test;
- 3) Application of distinct four forces A, B, C e D as being illustrated in figure 2, slowly enough in order to avoid dynamic effects. Each force has been applied 10 consecutive times and held 5 seconds every time;
- 4) Assessment of the handrail and of the joints points.
- 5) After testing the handrail have not reported neither breakages and/or holds failures, nor permanent deformations in the point of forces application larger than 15 mm (see regulations).

CONCLUSIONS

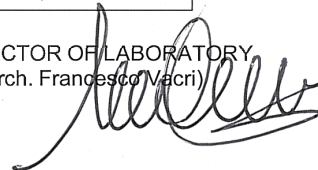
With regard to the tests performs, to the results of the measurements of the movements and to observations made, the test sample "**Attic Ladder 70x100 (H = 276-300 cm)**", being provided by the FGM SCALE S.R.L., has highlighted as following:

TEST	REGULATION	RATING
Static load test	UNI EN 14975:2010 § 5.2	Compliant Absence of breakages and/or structural failures, no permanent deformation of the step, absence of cracks and/or breakages on joints and weldings. Permanent deformation within the limits of regulation
Torsion test of the step	UNI EN 14975:2010 § 5.4	Compliant No damages of weldings between the step and the framework of the loft ladder Absence of permanent deformation by torsion.
Handrail load test	UNI EN 14975:2010 § 5.5	Compliant Absence of breakages and/or holds failures between the handrail and the framework of the loft ladder. Permanent deformation in the points of forces application within the limits of regulation

LABORATORY TECHNICIAN
(Eng. Pasqualino Gualtieri)




THE DIRECTOR OF LABORATORY
(Dr. Arch. Francesco Vacri)



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PHOTOGRAPHIC DOCUMENTATION



Picture 1: static load test – first step



Picture 2: static load test – middle step of the ramp

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Picture 3: static load test – middle step of the ramp, specific dial gauge



Picture 4: assessment of entirety of opening-closing mechanism

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SUMMARY SHEET UNI EN 14975:2010 TESTING

Client: FGM SCALE S.r.l.

Address: Via dell'Artigianato, 10 – 67039 Sulmona (AQ)

Product identification : Loft Ladder

Trade name: Attic Ladder 70x100 (H = 276 – 300 cm)

References: Test report N. AT326PC/15 of the 10.11.15

STATIC LOAD CAPACITY TEST (§ 5.2)

	LOAD APPLIED ON FIRST STEP		LOAD APPLIED IN THE MIDDLE OF THE RAMP	
	Preload 1000 N (102 kg)	Load 2600 N (265 kg)	Preload 1000 N (102 kg)	Load 2600 N (265 kg)
Application time ⁽¹⁾	T = 60 seconds	T = 60 seconds	T = 60 seconds	T = 60 seconds
Welding conditions	Unaltered	Unaltered	Unaltered	Unaltered
Springs conditions	Unaltered	Unaltered	Unaltered	Unaltered
Brackets conditions	Unaltered	Unaltered	Unaltered	Unaltered
Holds conditions	Unaltered	Unaltered	Unaltered	Unaltered
Step conditions	Unaltered	Unaltered	Unaltered	Unaltered
Opening/closing mechanism	Unaltered	Unaltered	Unaltered	Unaltered
Ladder rating	COMPLIANT	COMPLIANT	COMPLIANT	COMPLIANT

(1) Application time of preload of N 1000, T = 60 seconds in compliance with UNI EN 14975:2010

(1) Application time of preload of N 2600, T = 60 seconds in compliance with UNI EN 14975:2010

TORSION TEST OF THE STEP (§ 5.4)

Twisting couple	50 Nm
Welding conditions after test	Unaltered
Permanent deformation of step after test	Absent
Ladder rating	COMPLIANT

HANDRAIL LOAD TEST (§ 5.5)

Loads applied ⁽²⁾	100 – 400 N (10 – 41 kg)
Anchoring supports after test	Unaltered
Permanent deformations after test	Within the limits of the law
Ladder rating	COMPLIANT

(2) Loads applied according to regulations and extents as required by UNI EN 14975:2010

LABORATORY TECHNICIAN
(Ing. Pasquale Gualtieri)

Pasquale Gualtieri



ABRUZZO TEST S.R.L.

THE DIRECTOR OF LABORATORY
(Dr. Arch. Francesco Vacri)

Francesco Vacri

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