Technical Instructions

CAGED LADDER

ALUMINUM CAGED LADDER

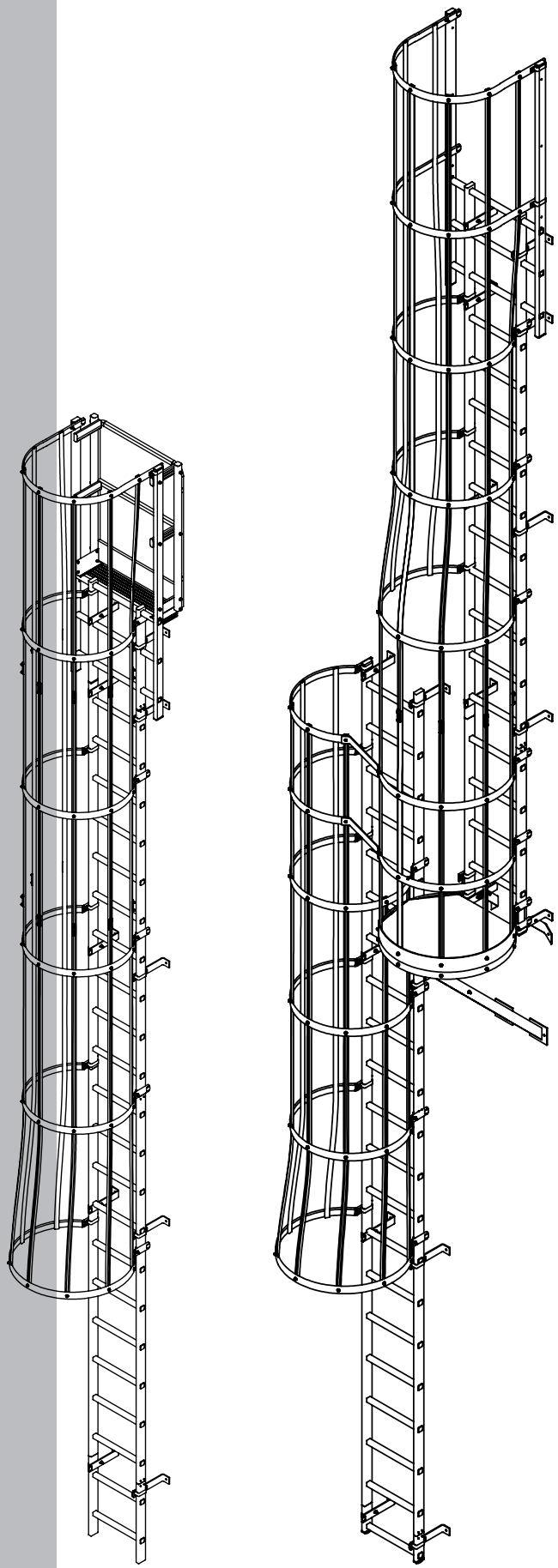
COMPLIANT

ANSI-ASC A14.3-2008

National Building Code of Canada

Quebec Construction Code

Ontario Building Code



These instructions are valid for the assembly of a caged ladder with a maximum height of 60 metres.

ECHELLE CANADA

www.echellecanada.ca

INSTRUCTIONS BEFORE USE

1 GENERAL SAFETY RULES

The installation of a caged ladder most often takes place on high accesses not yet made safe.
It is therefore imperative to take all appropriate protective measures to ensure that users are protected, in accordance with the regulations in force

2 PRECAUTIONS FOR WORKING AT HEIGHT

The installation of a caged ladder most often takes place on high accesses not yet made safe.
It is therefore imperative to take all appropriate protective measures to ensure that users are protected, in accordance with the regulations in force.

3 PREVENTION OF FALLS

When working on a roof, whether climbing or descending, adequate preventive measures must be taken in case there is the risk of falling. These measures should be taken before starting a job and remain in place until it is completed. The weather conditions must be taken into account when working at height, in order not to be surprised by wet, windy or chilly conditions, which can increase the risk of falling of the operator or the material.

4 FALLING MATERIALS

Falling materials can have serious consequences. Make sure they are properly stored, especially in difficult weather conditions. Be careful not to create a pile of materials that could fall. Under no circumstances should you throw any material off a roof.

5 TOOLS

Below is a list of the materials and tools needed to assemble the Canadian caged ladder. Hardware not supplied.


DRILLING MACHINE


DRILLS 10 AND 13


BOLT GUN


12" WRENCH

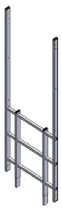

SCREWDRIVER


MANUAL RIVETER

TABLE OF CONTENTS

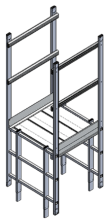
NOMENCLATURE

EXITS

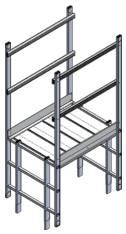


Standard exits
Width 700 mm
A0008268/EECAEXIT

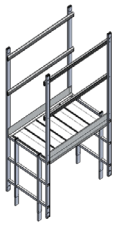
Exit with door and step
Width of platform 700 mm
A0008269/EECASTEPEXIT



Exit through parapet passage
without door
Width 700 mm length 725 mm
A0008270/EECAPASEXIT725

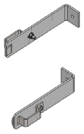


Exit through parapet passage
without door
width 700 mm length 950 mm
A0008271/EECAPASEXIT950



Exit through parapet passage
without door
Width 700 mm length 1175 mm
A0008272/EECAPASEXIT1175

FASTENING

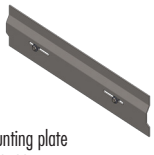


Standard mounting brackets
(one pair)
A0002594 / 50139

Reinforced mounting brackets
(one pair)
A0002624/51766

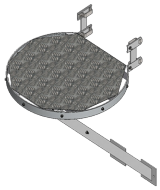
Adjustable mounting brackets
150 / 300 mm (one pair)
A0002611/51571

Adjustable mounting brackets
250 / 400 mm (one pair)
A0002612/51571L



Mounting plate
on cladding
A0009001/PLATEFIXCLADDING

PLATFORM HOOP



Fixed platform with brace
A0008264/EECAPLATFORM

Baseboard for platform hoop
A0008267/EECABASEBOARD

Runner length 2800 mm
A0003004/RUN2800

Connecting piece for wire runners
A0002598/50255

Caged ladder 3000 mm
A0008123/EECACAGE300

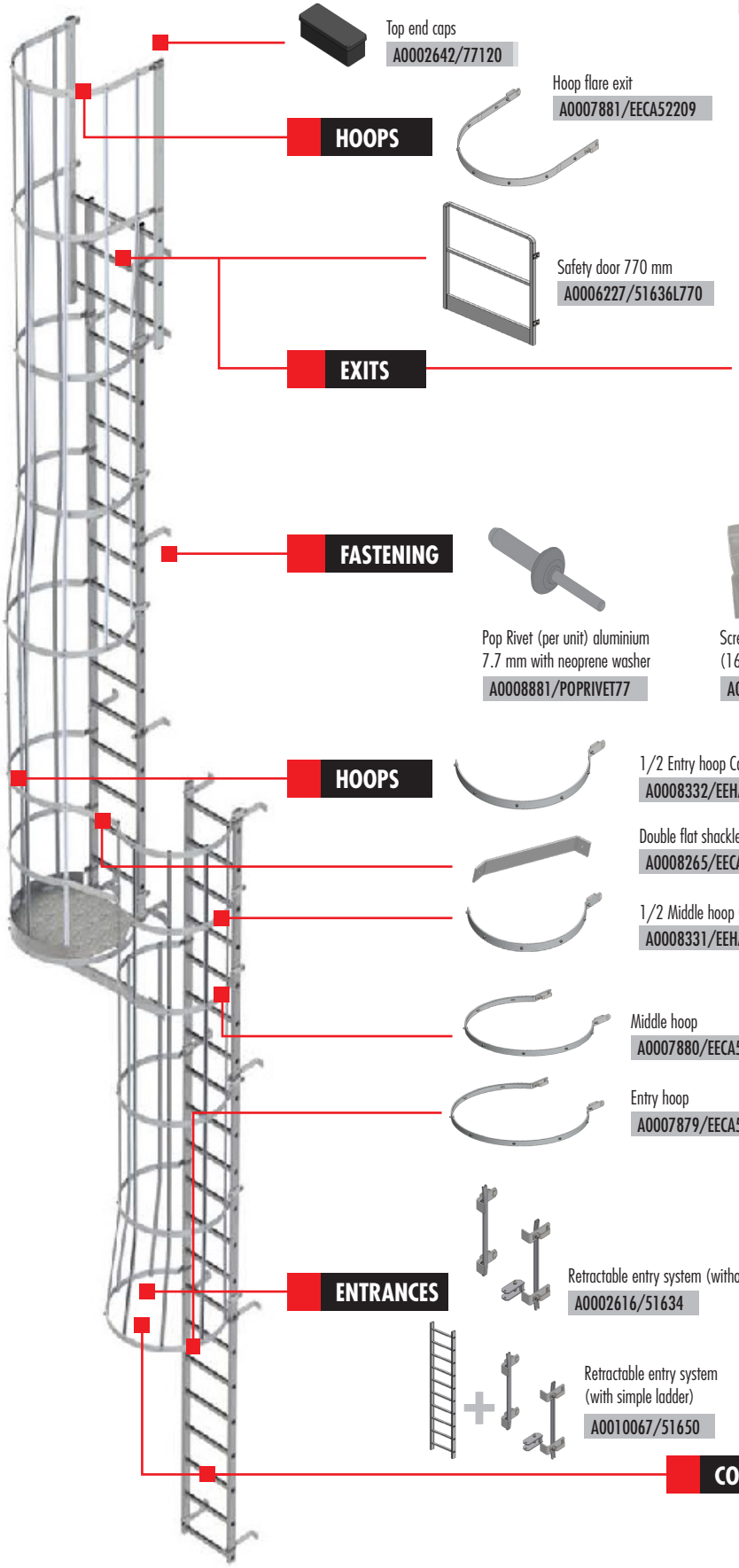
Connecting sleeves for ladder
A0002610/51567

FASTENING

Floor mounting brackets
(one pair) A0007338/50138

Bottom ladder feet (per unit)
A0002643/78045

NOMENCLATURE



Top end caps
A0002642/77120

HOOPS

Hoop flare exit
A0007881/EECA52209

Safety door 770 mm
A0006227/51636L770

EXITS

Retractable stock wall mounting
A0002646/STOCKMU

Retractable stock ladder mounting
A0000044/STOCK

Resin pads for descent of parapet
A0007383/A0007383

FASTENING

Pop Rivet (per unit) aluminium 7.7 mm with neoprene washer
A0008881/POPRIVET77

Screw kit for cladding plate (16 self-drilling screws + 16 chimney washers)
A0006882/CLADDINGSCREWKIT

Roll of Sealing tape length 10 m
A0008888/SEALINGTAPE10M

HOOPS

1/2 Entry hoop Canada
A0008332/EEHALFENTRYHOOPCA

Double flat shackle
A0008265/EECASHAC

1/2 Middle hoop Canada
A0008331/EEHALFMIDDLEHOOPCA

Middle hoop
A0007880/EECA50254

Entry hoop
A0007879/EECA50254E

Adjustable lift bar
A0006480/ADJUSTABLE BAR

Galvanized ladder hook Ø 50 mm for ladder
A0004837/30030002

ENTRANCES

Retractable entry system (without ladder)
A0002616/51634

Retractable entry system (with simple ladder)
A0010067/51650

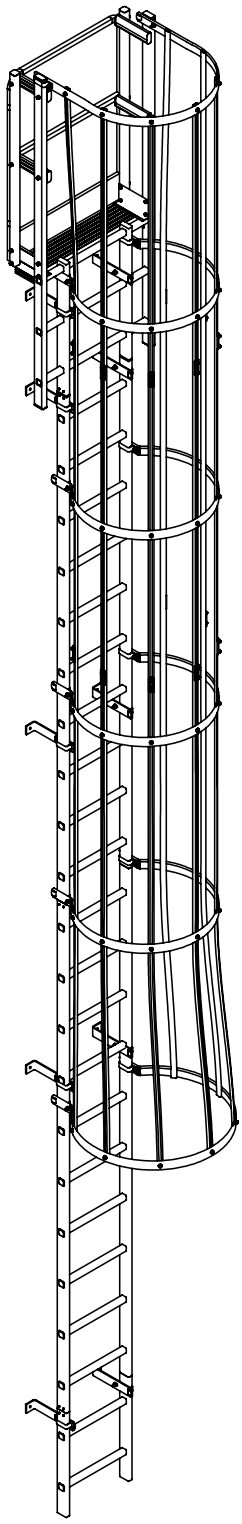
CONDAMNATION

Cage door padlock
A0006285/PADLOCK

Cage door
A0010050/5550

Simple cage door
A0010086/51765N

ASSEMBLY RULES



GENERAL CHARACTERISTICS

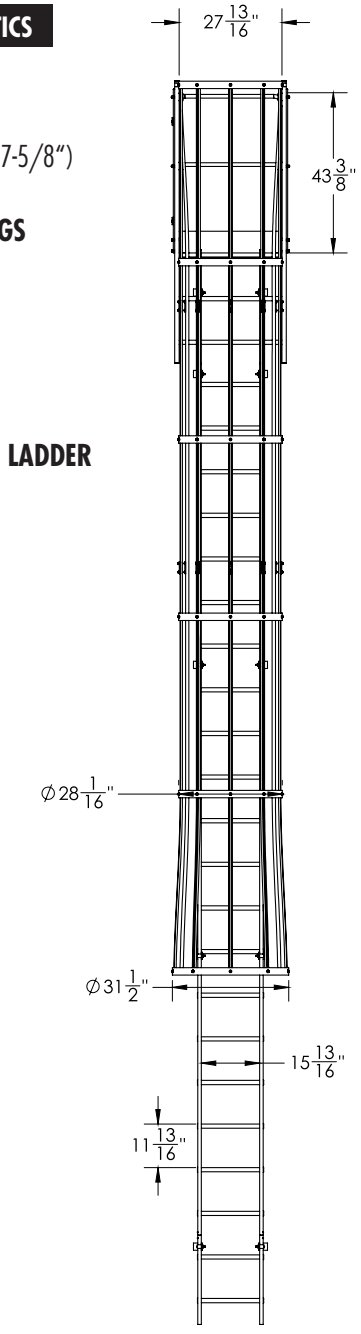
DIAMETER OF PASSAGE
1st hoop 800 mm (31-1/2“),
the following ones 700 mm (27-5/8“)

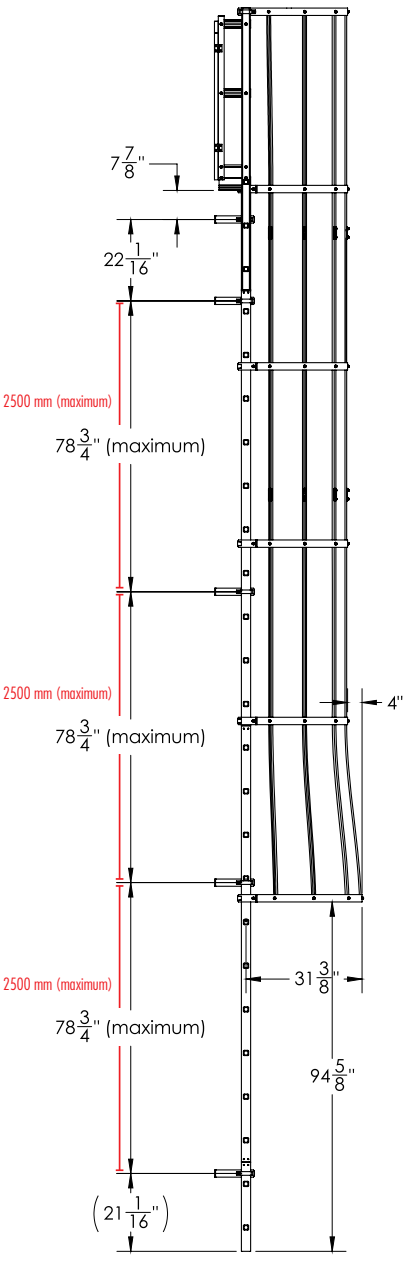
SPACING BETWEEN RUNGS
30 cm (11-7/8“)

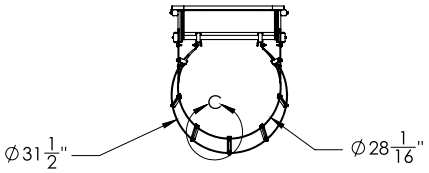
NUMBER OF RUNNERS
7

OVERALL WIDTH OF THE LADDER
448 mm (17-3/4“)

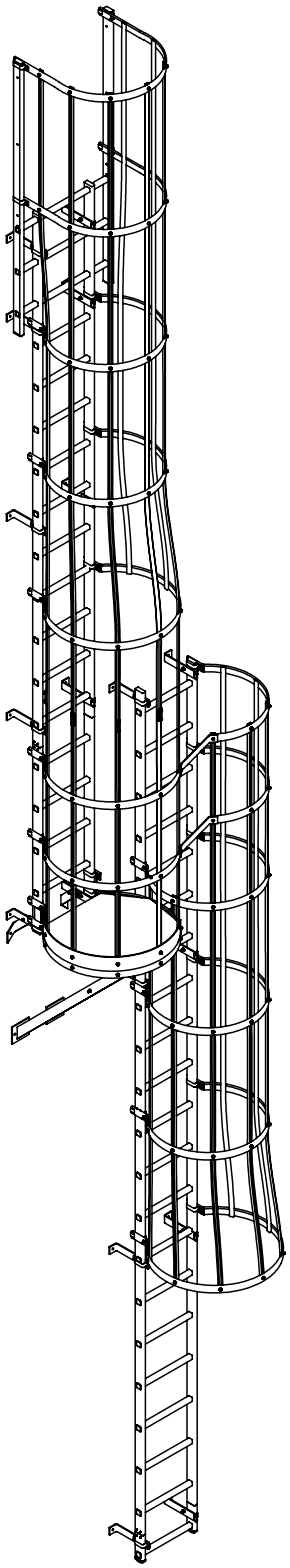
LADDER PROFILE
60 × 24 mm (23/8“ x 1“)

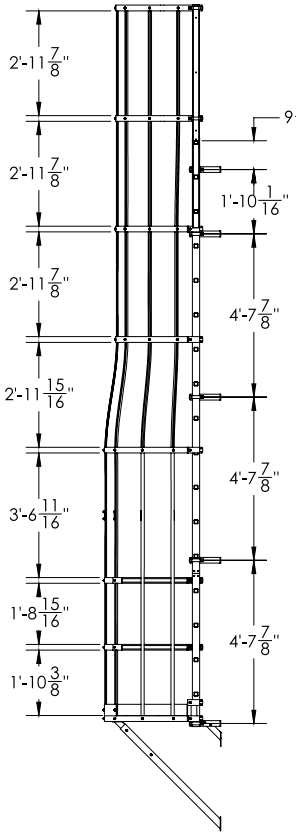




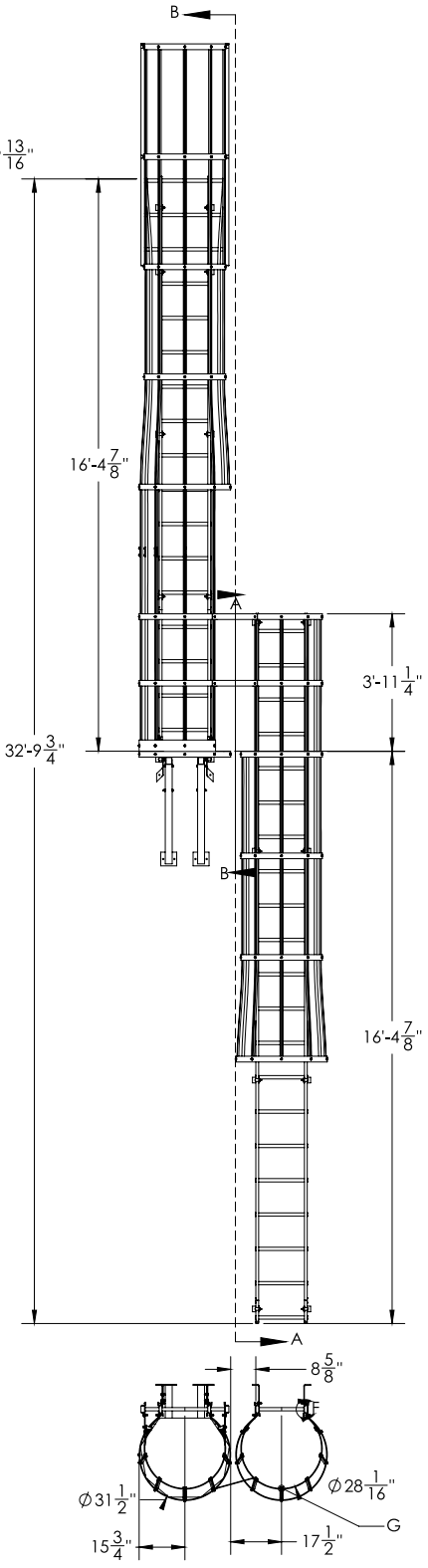


ASSEMBLY RULES

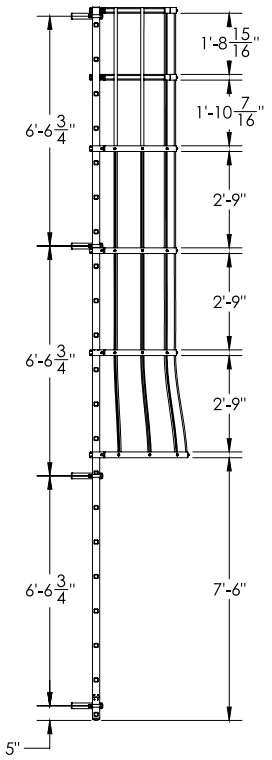


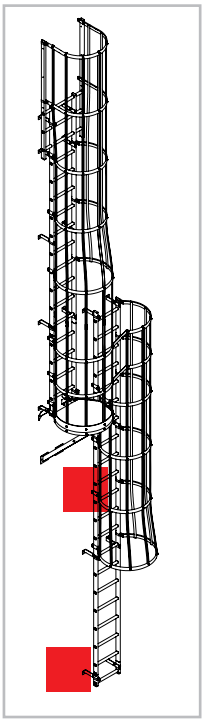


CUP B-B



CUP A-A





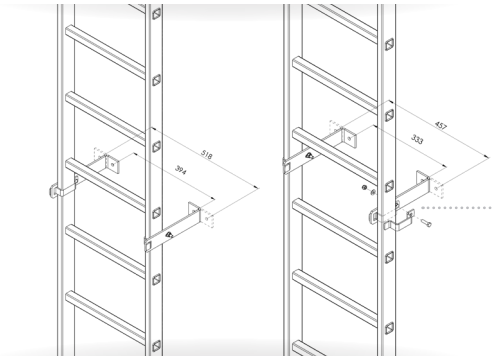
FASTENING

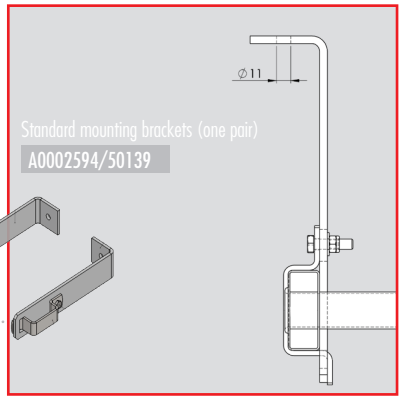
STANDARD MOUNTING BRACKETS

Drilling diameter **11 mm.**

Fixing screw + nut + washer supplied, pre-installed on the mounting bracket.

The maximum distance between the mounting brackets is **2500 mm**.

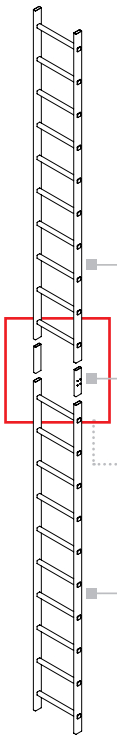




Standard mounting brackets (one pair)
A0002594/50139

Attach the mounting brackets using a cladding plate that follows the contours of the wall

Mounting plate on cladding
A0009001/PLATEFIXCLADDING



SLEEVE

The 3000 mm ladder is placed at the start of the cage and is fastened by the mounting brackets every 2500 mm. Sleeve required between 2 ladders depending on the height of the cage.

Caged ladder 3000 mm
A0008123/EECAGECA300

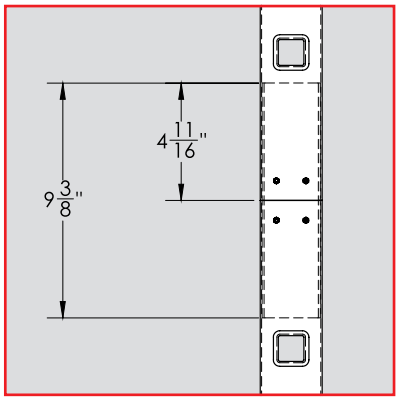
Connecting sleeves for ladder
A0002610/51567

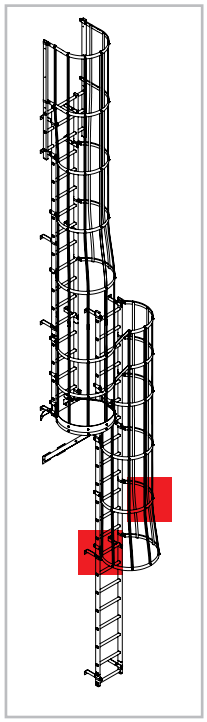
Pop Rivet (per unit) aluminum
7.7 mm with neoprene washer
A0008881/POPRIVET77

Caged ladder 3000 mm
A0008123/EECAGECA300

The sleeve slides inside the ladder upright and is fastened with two self-drilling screws per ladder upright (a total of 8 screws for the junction between two ladders).

Use of 3/16" rivets.

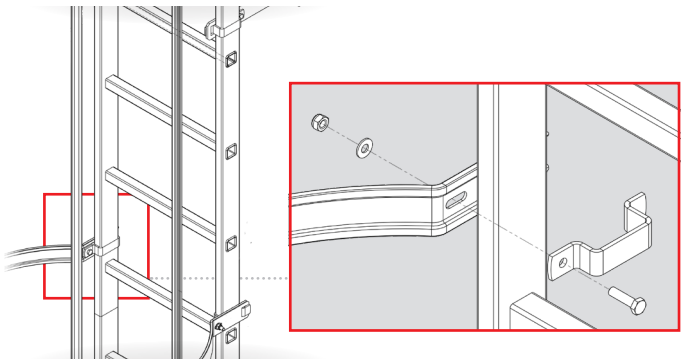


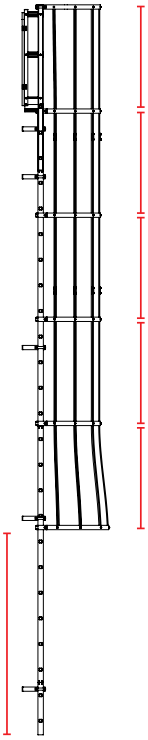


FASTENING

FASTENING HOOP — LADDER

Fixing screw + nut + washer supplied, pre-installed on the hoops.
End of the hoop to be fastened to the sleeve of the ladder.



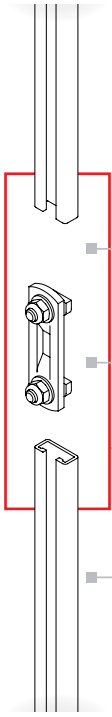


Secondary middle hoops
by ensuring that there is a distance of 1219 mm (48 in.) between each hoop.

First flare hoop
to be placed at a minimum height of 2134 mm (84 in.) and a maximum height of 2438 mm (96 in.), according to the standard.

FASTENING HOOP — RUNNER

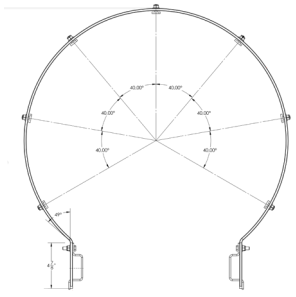
One flight consists of **7 runners** to be arranged from the first hoop to the exit hoop by using the connecting pieces.



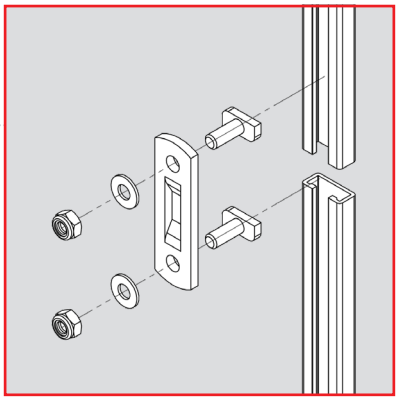
Length of runner 2800 mm
A0003004 /RUN2800

Connecting piece for wire runners
A0002598 / 50255

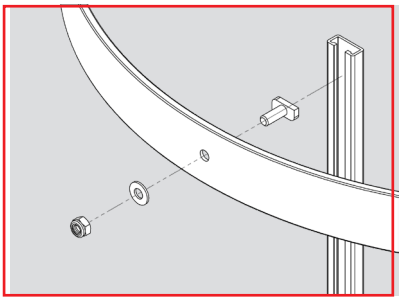
Runner length 2800 mm
A0003004/RUN2800

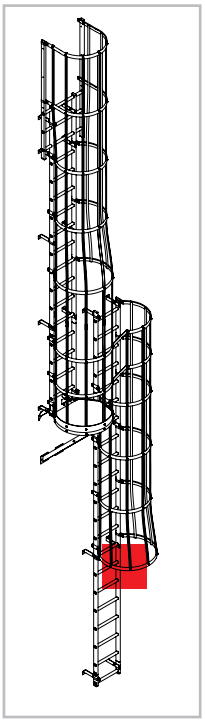


Fastening the assembly inside the grooves of the runners with HSR type screws.



Fixing screw + nut + washer supplied, pre-installed on the hoops.



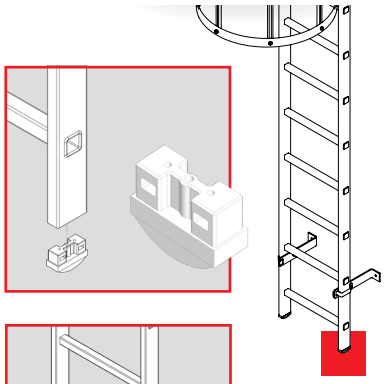


ENTRANCES

WITH LADDER ON THE GROUND

FLOOR PADS

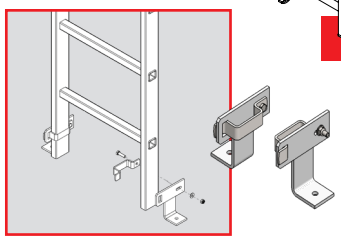
Insert the 2 non-slip pads inside the profiles of the caged ladder, in order to keep it stuck to the ground.
The maximum distance between the mounting brackets and the ground is 370 mm.



Bottom ladder feet (per unit)
A0002643/78045

FASTENING TO THE GROUND

Fasten the caged ladder to the ground with the 2 mounting brackets in order to ensure total stability.
The first standard feet are installed at a maximum height of 2000 mm.
Do not use if ground is unstable.

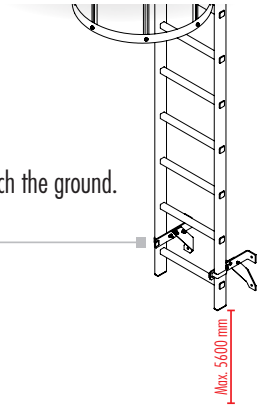


Floor mounting brackets (one pair)
A0007338/50138

WITHOUT LADDER

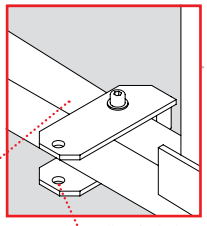
Fasten the ladder to the wall using the 2 reinforced mounting brackets.
In this case, **the ladder does not touch the ground**
and **can start at a maximum height of 5600 mm.**
The use of reinforced legs is mandatory at the bottom of each flight that does not touch the ground.

Reinforced mounting brackets (one pair)
A0002624/51766



RETRACTABLE LADDER

Fasten the entrances without ladder with the 2 reinforced mounting brackets.
Then attach the mobile ladder to the fixed ladder at the first rung by making sure that it is aligned with the fixed ladder, once on the ground.
The use of reinforced legs is mandatory at the bottom of each flight not touching the ground.

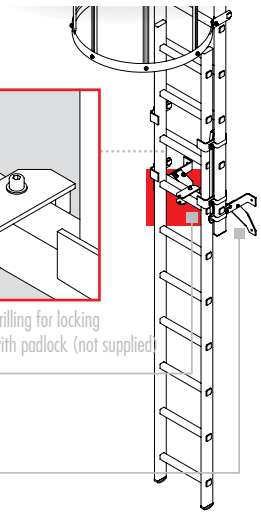


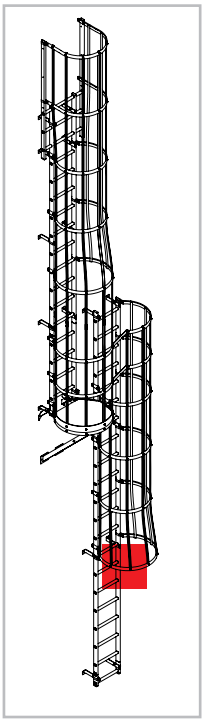
Make a 9 mm Ø hole in the centre of the first rung of the fixed ladder to put the locking yoke

Drilling for locking with padlock (not supplied)

Retractable entry system (without ladder)
A0002616/51634

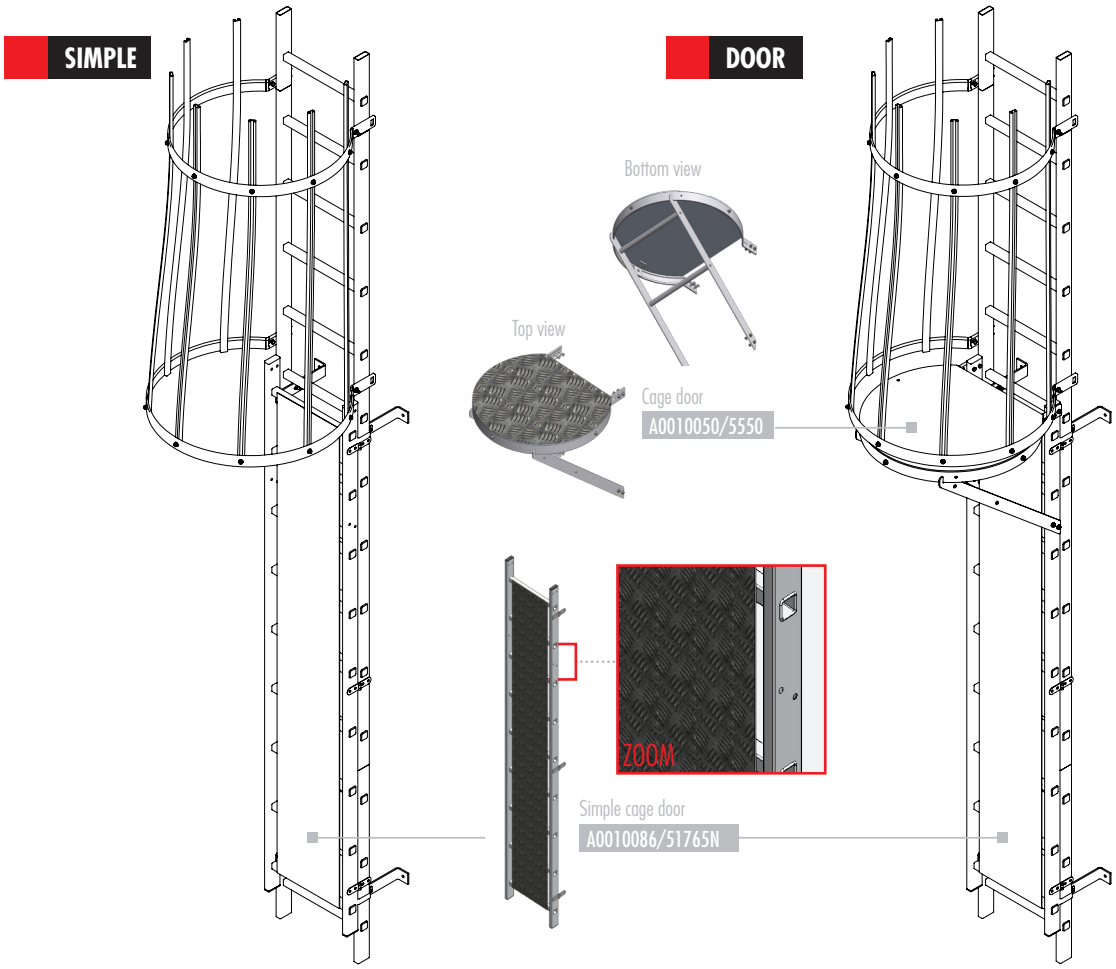
Reinforced mounting brackets (one pair)
A0002624/51766





CAGE DOORS

A cage door allows for BLOCKING the entrance of the cage, by temporarily preventing access with a padlock, so that unauthorized access to the roof is not possible.

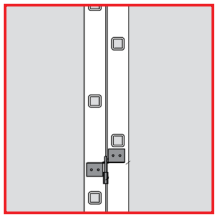


For the **Cage door** configuration, the door is sold separately.
It must be fixed to the simple cage door, through the two holes located on each side of the cage door. (see ZOOM). You will also need to fasten the cover to the ladder sleeves in the same way as a hoop.

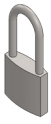
The cage doors are to be fastened at the start of the cage, under the first hoop of the flights of ladders.
It is fastened to the ladder sleeve by means of three side hinges.

The **maximum distance** to be observed between the mounting brackets is 2500 mm.

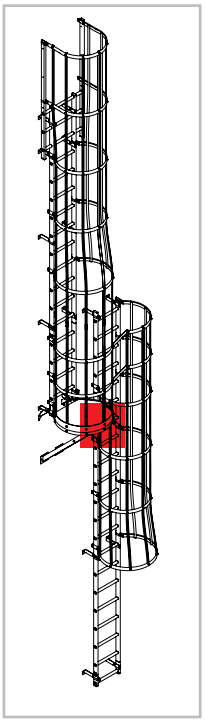
There must be a distance of 50 mm between the cage door and the first hoop.



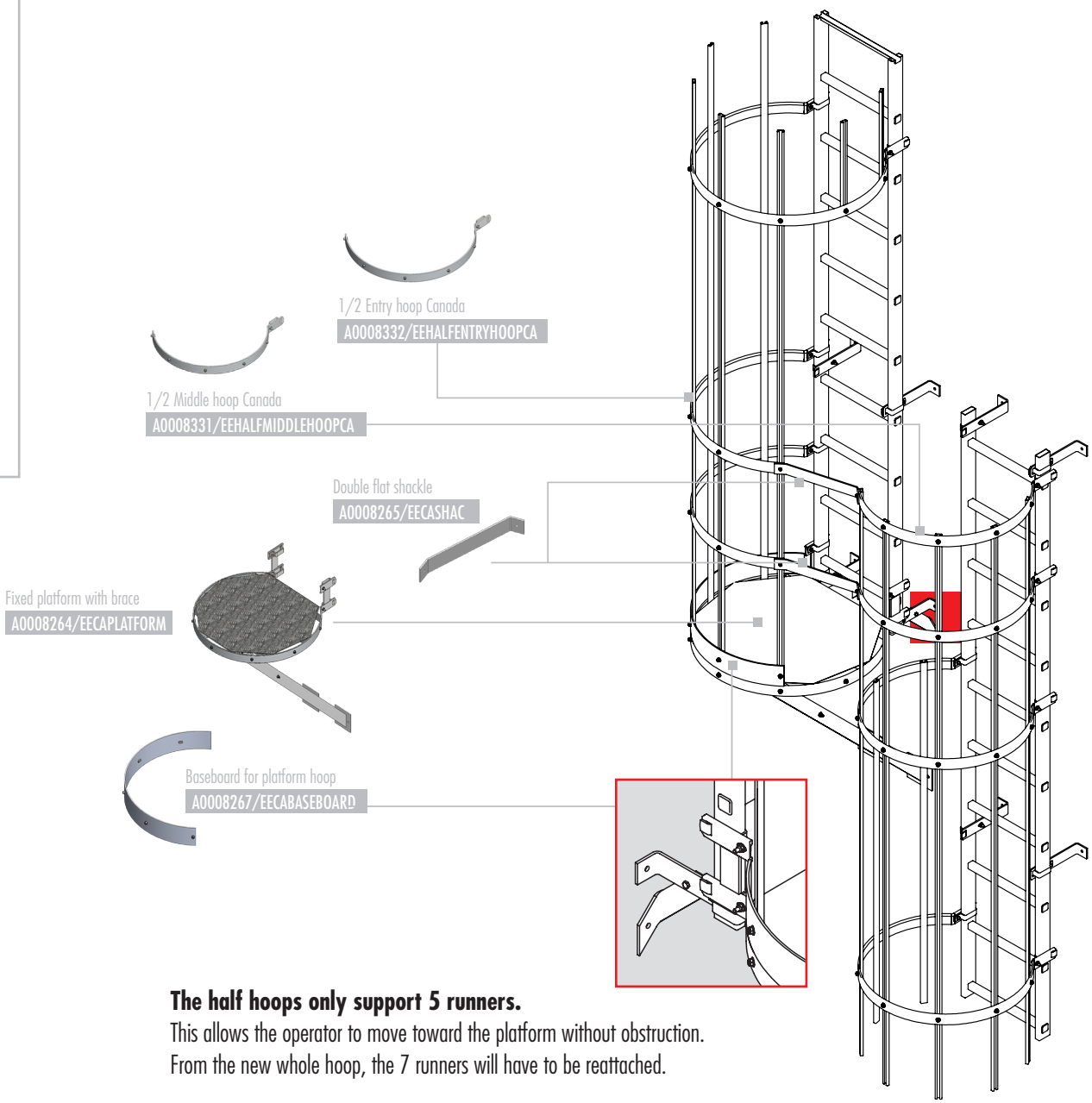
Cage door padlock
A0006285/PADLOCK



An anti-theft padlock for the cage doors:
Side closing for simple cage doors, opposite the hinges.



CHANGE OF FLIGHT



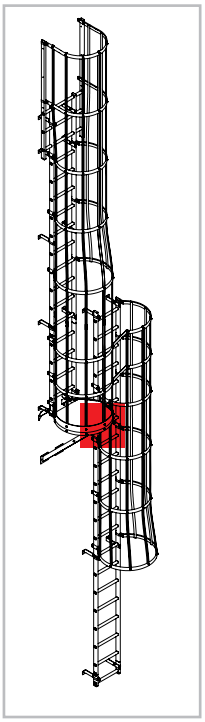
The half hoops only support 5 runners.
This allows the operator to move toward the platform without obstruction.
From the new whole hoop, the 7 runners will have to be reattached.

It is necessary to make a change of flight when the flight reaches 9000 mm.
That is to say a height of three sleeved ladders.

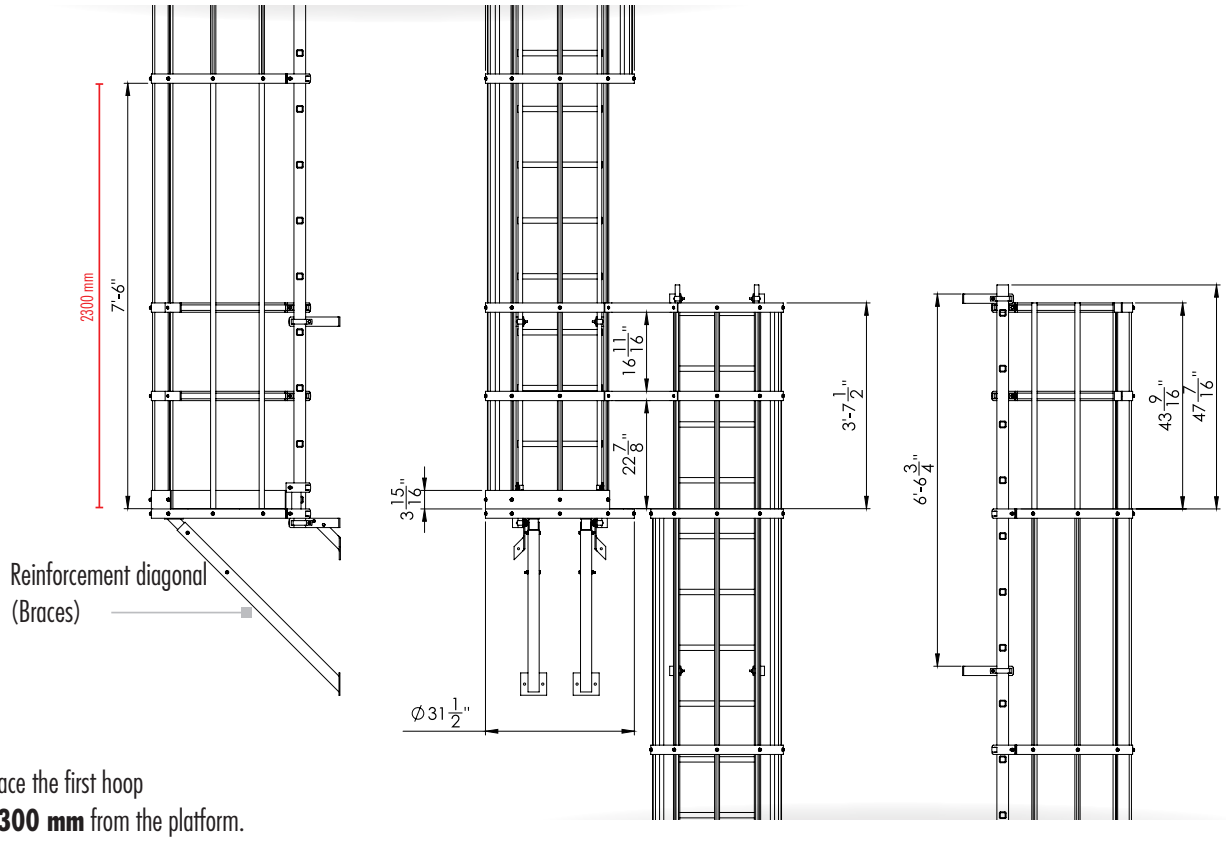
Reinforced mounting brackets are required at the bottom of each flight that does not touch the ground.

The **platform** is fastened to the ladder sleeves like a hoop.
The end of the **braces** is fastened to the wall.

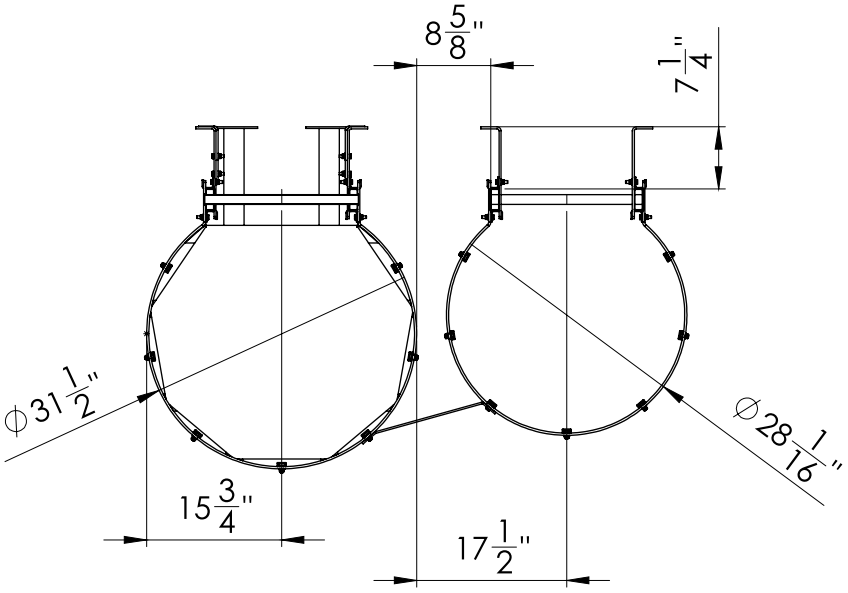
Use the flat **junction piece** between the half hoops to be able to make a double flight once the platform is fixed.



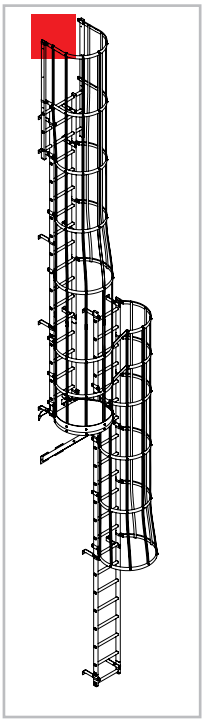
CHANGE OF FLIGHT



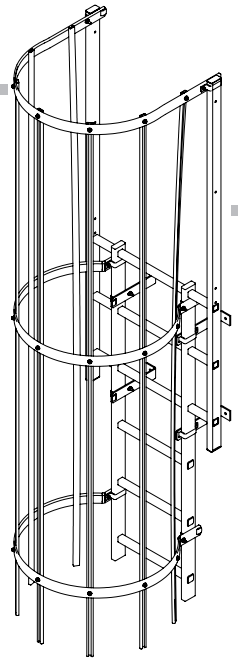
Place the first hoop
2300 mm from the platform.

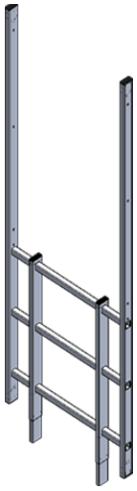


FRONT EXITS

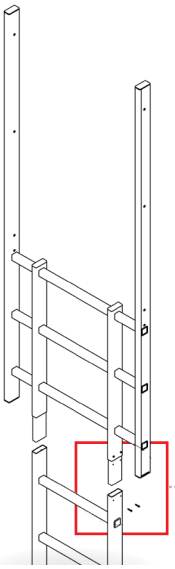


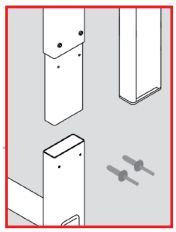
WITHOUT DOOR NON-COMPLIANT





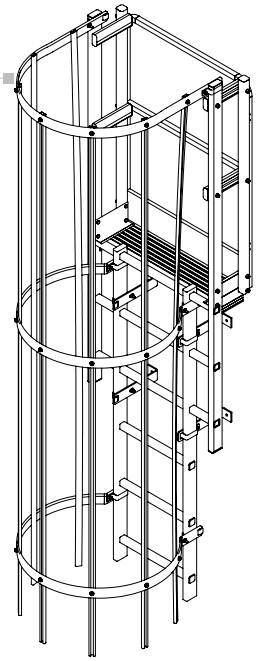
Standard exits
Width 700 mm
A0008268/EECAEXIT

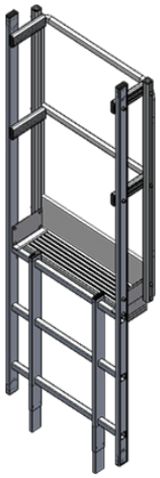




Hoop flare exit
A0007881 / EECA52209

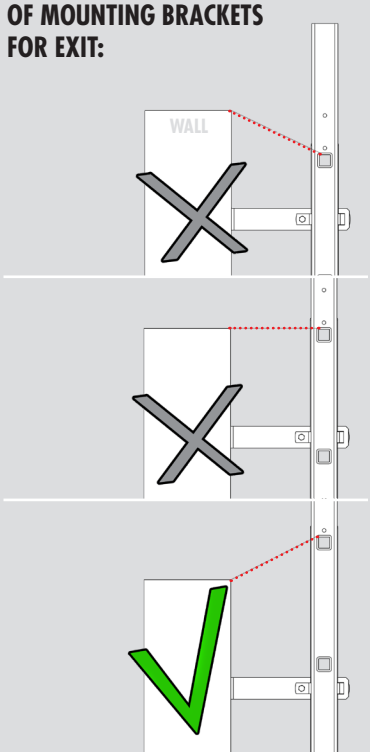
WITH DOOR + WALKING LANDING COMPLIANT

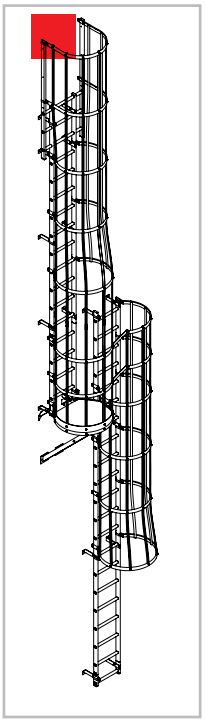




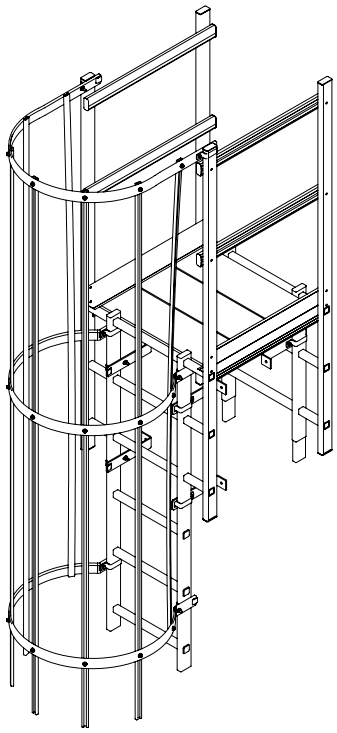
Exit with door and step
Width of platform 700 mm
A0008269/EECASTEPEXIT

POSITIONING OF MOUNTING BRACKETS FOR EXIT:

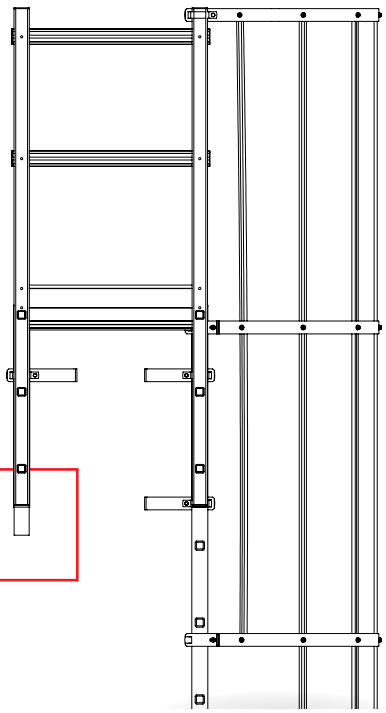




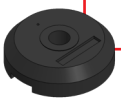
BRIDGE EXITS



Parapet passage
When there is an obstacle at the exit of the cage.

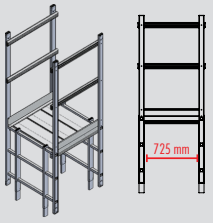


Attachment of the bridge at the front exit.
It must also rest on resin pads.

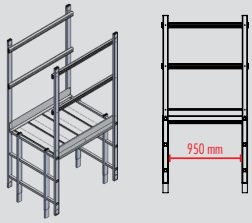


Resin pads
for parapet descent
A0007383/A0007383

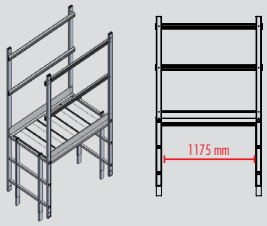
THREE POSSIBLE BRIDGE WIDTHS



Exit through parapet passage without door Width 700 mm length 725 mm
A0008270/EECAPASEXIT725

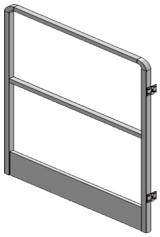


Exit through parapet passage without door width 700 mm length 950 mm
A0008271/EECAPASEXIT950



Exit through parapet passage without door width 700 mm length
A0008272/EECAPASEXIT1175

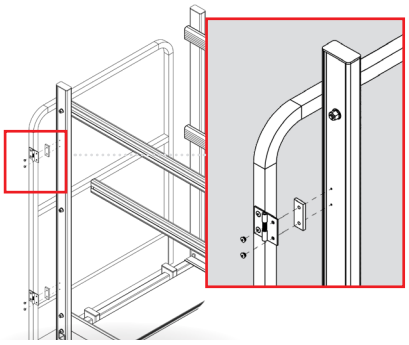
DOOR OPTION **COMPLIANT**



Position the door 10 mm from the last step of the exit.

Fasten the two hinges that allow for opening and closing the door.

Safety door 770 mm
A0006227/51636L770



CERTIFICATE OF CONFORMITY

ABMS Consultants
INGÉNIERIE MÉCANIQUE SUR MESURE

CERTIFICATE OF CONFORMITY Thursday, March 5, 2015

CUSTOMER: ÉCHELLE EUROPEENNE

SUBJECT: MODULAR CAGED LADDER

We have carried out the design calculations and necessary checks on the different parts and modules of the caged ladder consisting of a combination of the following items and their components:

- List of items:
  - Standard mounting brackets (Ref. No. A0002594)
  - Spacer clamp (Ref. No. A0002598)
  - Platform 1000 × 1000 (Ref. No. A0002599)
  - Flare bridge exit (Ref. No. A0002605 or A0002606)
  - Ladder sleeve (Ref. No. A0002610)
  - Flare exit (Ref. No. A0002619)
  - Runner lg 2800 (Ref. No. A0003004)
  - Gate (Ref. No. A0006227)
  - Entry hoop Canada (Ref. No. A0007879)
  - Middle hoop Canada (Ref. No. A0007880)
  - Exit hoop Canada (Ref. No. A007881)
  - Cage ladder 3000-Canada (Ref. No. A0008123)
  - Fixing exit (Ref. No. A0008132)
  - Fixed platform (Ref. No. A0008264, p. 1 to 2)
  - Double flat shackle (Ref. No. A0008265)
  - Flat hoop junction gc (Ref. No. A0008266)
  - Hoop platform toe board (Ref. No. A0008267)
  - Wide flare exit (P/N A0008268, A0008269, A0008270, A0008271 and A0008272)
  - Half middle hoop (Ref. No. A0008331)
  - Half entry hoop (Ref. No. A0008332)

- List of assembly drawings
  - Change of flight kit with platform 1000 × 1000 (Ref. No. CA 15001)
  - Change of flight kit with hoop platform (Ref. No. CA 15002)
  - Flare exit kit A with walking landing (Ref. No. CA 15003)
  - Flare exit kit A with bridge (Ref. No. CA 15004)
  - Flare exit kit A (Ref. No. CA 15005)
  - Flare exit kit B with bridge (Ref. No. CA 15006)

CERTIFICATE OF CONFORMITY

ABMS Consultants
INGÉNIERIE MÉCANIQUE SUR MESURE

CERTIFICATE OF CONFORMITY — Thursday, March 5, 2015

- o Flare exit kit B (Ref. No. CA 15,007)
- o Ladder assembly kit (Ref. No. CA 15008)
- o Runner kit (Ref. No. CA 15009)
- o Single flight caged ladder (Ref. No. CA 15010)
- o Caged ladder with adjustable platform height (Ref. No. CA 15011)

Consequently, we certify the conformity of the above-mentioned modular caged ladder to the ANSIASC A14.3-2008 standard, the National Building Code of Canada, the Quebec Construction Code and the Ontario Building Code.

N°OIQ :39746
N°PEO: 100187969
N°APEGGA: 125523
N°APEGBC: 38422

Alain Scuvée
Senior Mechanical Engineer

ATTESTATION OF COMPLIANCE

CUSTOMIZED MECHANICAL ENGINEERING

ATTESTATION OF COMPLIANCE

Thursday, 5 March, 2015

CUSTOMER : ÉCHELLE EUROPÉENNE

SUBJECT : MODULAR CAGED LADDER

We have carried out the design calculations and verifications required on the caged ladder's elements and modules composed solely of a combination of the following items and their components:

Items list:

- Standard mounting brackets (Ref. No. A0002594)
- Spacer clamp (Ref. No. A0002598)
- Platform 1000 × 1000 (Ref. A0002599)
- Flare gateway exit (Ref. No. A0002605 or A0002606)
- Ladder sleeve (Ref. No. A0002610)
- Flare exit (Ref. No. A0002619)
- Runner lg 2800 (Ref. No. A0003004)
- Gate (Ref. No. A0006227)
- Entry hoop Canada (Ref. No. A0007879)
- Middle hoop Canada (Ref. No. A0007880)
- Exit hoop Canada (Ref. No. A007881)
- Ladder 3000-Canada (Ref. No. A0008123)
- Fixing exit (Ref. No. A0008132)
- Hoop platform (Ref. No. A0008264, p.1 to 2)
- Double flat shackle (Ref. No. A0008265)
- Flat hoop junction gc (Ref. No. A0008266)
- Hoop platform's toe board (Ref. No. A0008267)
- Wide flare exit (Ref. No. A0008268, A0008269, A0008270, A0008271 or A0008272)
- Half middle hoop (Ref. No. A0008331)
- Half entry hoop (Ref. No. A0008332)

- Assembly list
  - Change step with platform 1000 × 1000 (Ref. No. CA 15001)
  - Change step with platform with hoop platform (Ref. No. CA 15002)
  - Flare exit A with walking landing (Ref. No. CA 15003)
  - Flare exit A with bridge (Ref. No. CA 15004)
  - Flare exit A (Ref. No. CA 15005)
  - Flare exit B with bridge (Ref. No. CA 15006)
  - Flare exit B (Ref. No. CA 15007)

ATTESTATION OF COMPLIANCE

ABMS Consultants
CUSTOMIZED MECHANICAL ENGINEERING

ATTESTATION OF COMPLIANCE

Thursday, 5 March, 2015

- Assembly ladder (Ref. No. CA 15,008)
- Runners assembly (Ref. No. CA 15,009)
- Cage ladder (Ref. No. CA 15010)
- Cage ladder with change platform height (Ref. No. CA 15011)

Therefore, we certify that the above-mentioned modular caged ladder is compliant with the ANSIStandard ASC A14.3-2008, to the National Building Code of Canada, the Quebec Construction Code and the Ontario Building Code;

N°OIQ :39746
N°PEO: 100187969
N°APEGGA: 125523
N°APEGBC: 38422

Alain Scuvée
Senior Mechanical Engineer