

FIRE RESISTANCE CLASSIFICATION

of scissors loft ladder LSF

06050/15/R10NP

Warszawa, June 2015



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Title:

FIRE RESISTANCE CLASSIFICATION

of scissors loft ladder LSF

Register №:

06050/15/R10NP

Sponsor:

FAKRO Spółka z o.o.
144 a Węgierska St.
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Verification:

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1 Subject and scope of classification

Classification concerns fire resistance of scissors loft ladder LSF.

“Fire resistant scissors loft ladder LSF FAKRO” is a trade name of hatch door JAP 400 with hung folded ladder Lusso manufactured by Czech company J.A.P. spol. s.r.o. Prerov III-Lovesice 67, 750 02 Prerov, under which it is offered by FAKRO Spółka z o.o.

2 Formal grounds

2.1. Letter from FAKRO Spółka z o.o. dated 2015.03.02.

2.2. Agreement № 06050/15/R10NP dated 2015.05.11.

3 Technical basis

3.1. Fire resistance classification of hatch door with loft scissor ladder LSF № 2131/12/Z00NP. Building Research Institute, Fire Research Department, 2012.

3.2. EN 1634-1:2000 Fire resistance tests for door and shutter assemblies – Part 1: Fire doors and shutters.

3.3. EN 1363-1:1999 Fire resistance tests – Part 1: General requirements.

3.4. Test report № Pr-06-2.073. Pavus a.s. Fire Lab Veselí nad Lužnicí, 2006.

3.5. PN-EN 13501-2+A1:2010 Klasyfikacja ogniowa wyrobów budowlanych i elementów budynków. Część 2: Klasyfikacja na podstawie badań odporności ogniowej, z wyłączeniem instalacji wentylacyjnej (*eqv. Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services*).

4 Technical description

Technical description and construction details of scissors loft ladder LSF are given in Appendix (all pages stamped by seal of Fire Research Department of Building Research Institute).

Dimensions of scissors loft ladder LSF are given in Table No. 1 in Appendix (page 15). The frames of scissors loft ladder LSF shall be installed in floors according to manufacturer instruction, given in Appendix.

Scissors loft ladder LSF can be installed in floors of minimum REI 60 fire resistance class.

5 Fire resistance tests

In Fire Testing Laboratory Pavus a.s. in Veselí nad Lužnicí (Czech Republic) fire resistance test of hatch door JAP 400 with hung folded ladder Lusso was carried out according to EN 1634-1:2000 [3.2] – test report № Pr-06-2.073 [3.4].

6 Fire resistance classification

Fire resistance class of scissors loft ladder LSF manufactured according to technical description given in clause 4, with fire exposure from below, according to the criteria of PN-EN 13501-2+A1:2010 [3.5] – **EI₂ 60**.

7 Classification date of validity

The classification remains valid until 30th September 2018 provided that neither material nor constructional changes are made to the scissors loft ladder LSF.

In case of doubt Polish version is the only basis for interpretation.

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Approved by



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Head of Fire Research Department

Appendix:

technical documentation – „Structure of fire-resistant scissors loft ladder LSF FAKRO” (16 pages).

Appendix

to Classification № 06050/15/R10NP

Technical documentation

**STRUCTURE OF FIRE-RESISTANT
SCISSORS LOFT LADDER
LSF
FAKRO**

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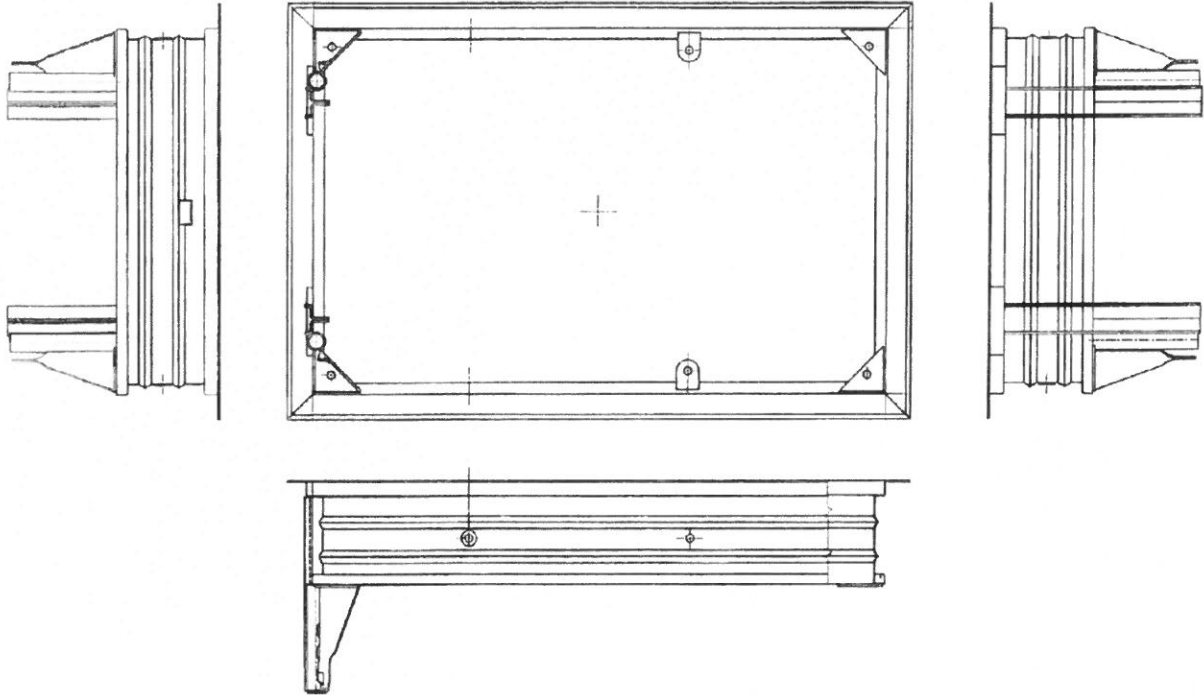
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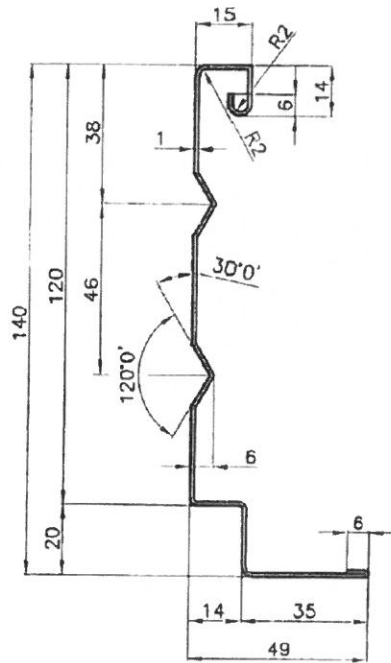
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1. Frame

The frame of LSF loft ladder is made of 1mm thick profiled sheet metal, powder coated.



Ladder frame profile



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2. Hatch

The hatch of LSF loft ladder is fabricated as a wooden frame with a cross-section of 30x70 mm. The free spaces inside the hatch are filled with mineral wool. From the bottom of the board between the frame and the metal sheet, there has been inserted a 14mm thick non-flammable board made of orsil. In the top section of the hatch, between the frame and the metal sheet, there is a 10 mm thick chipboard. The thickness of the metal sheet is 0.8 mm. The external side of the hatch has been painted white.

An intumescent tape has been applied along the whole parameter of the hatch. A lock has also been fitted (item A).

The arrangement of the individual materials specified above is presented in **Figure 1**.

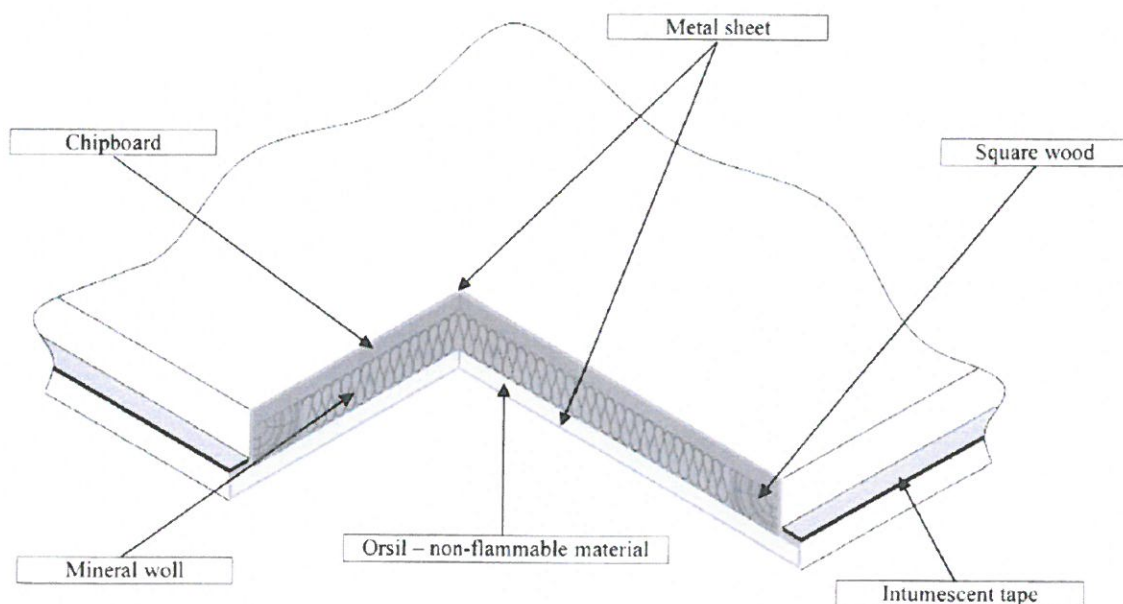
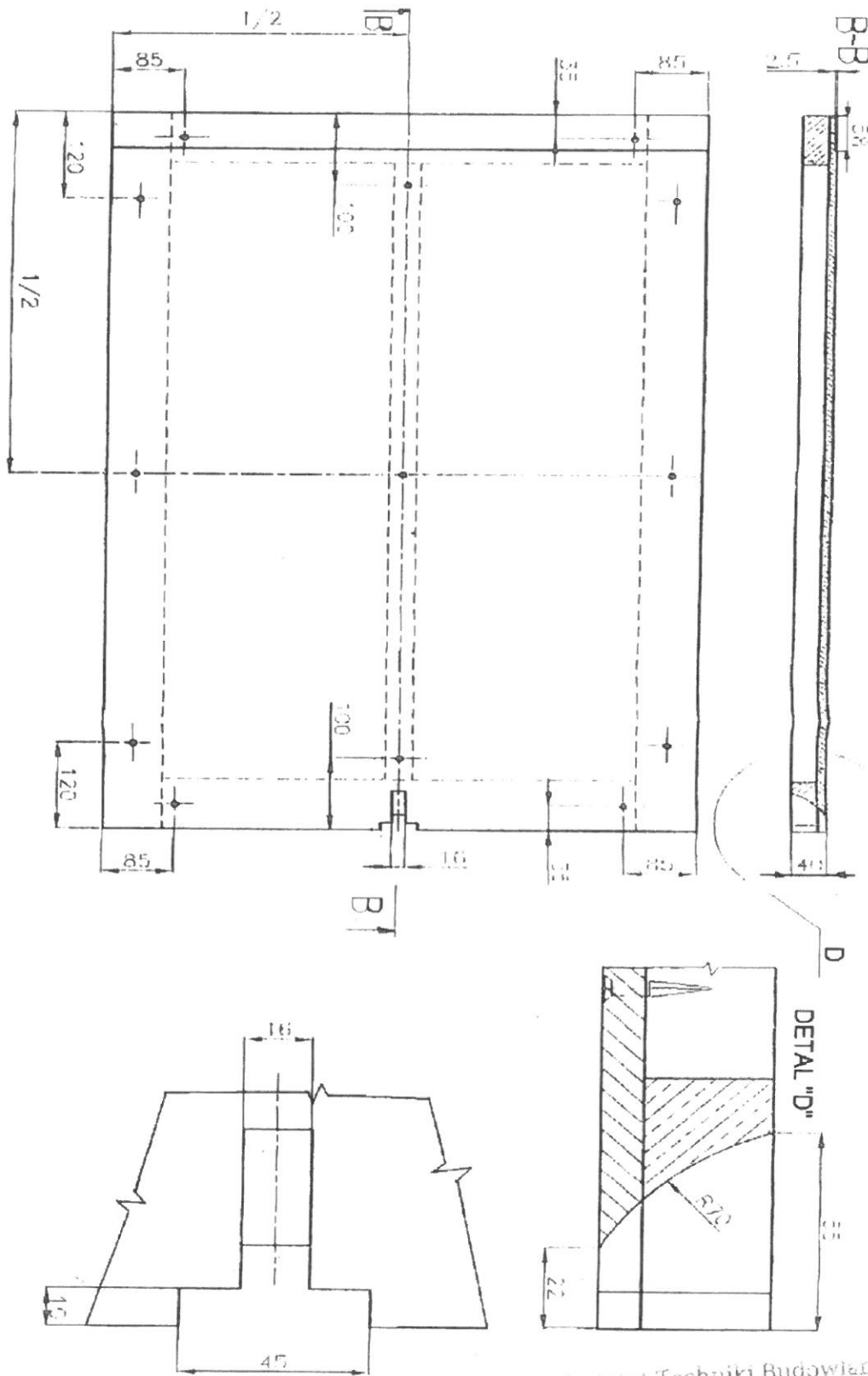


Figure 1

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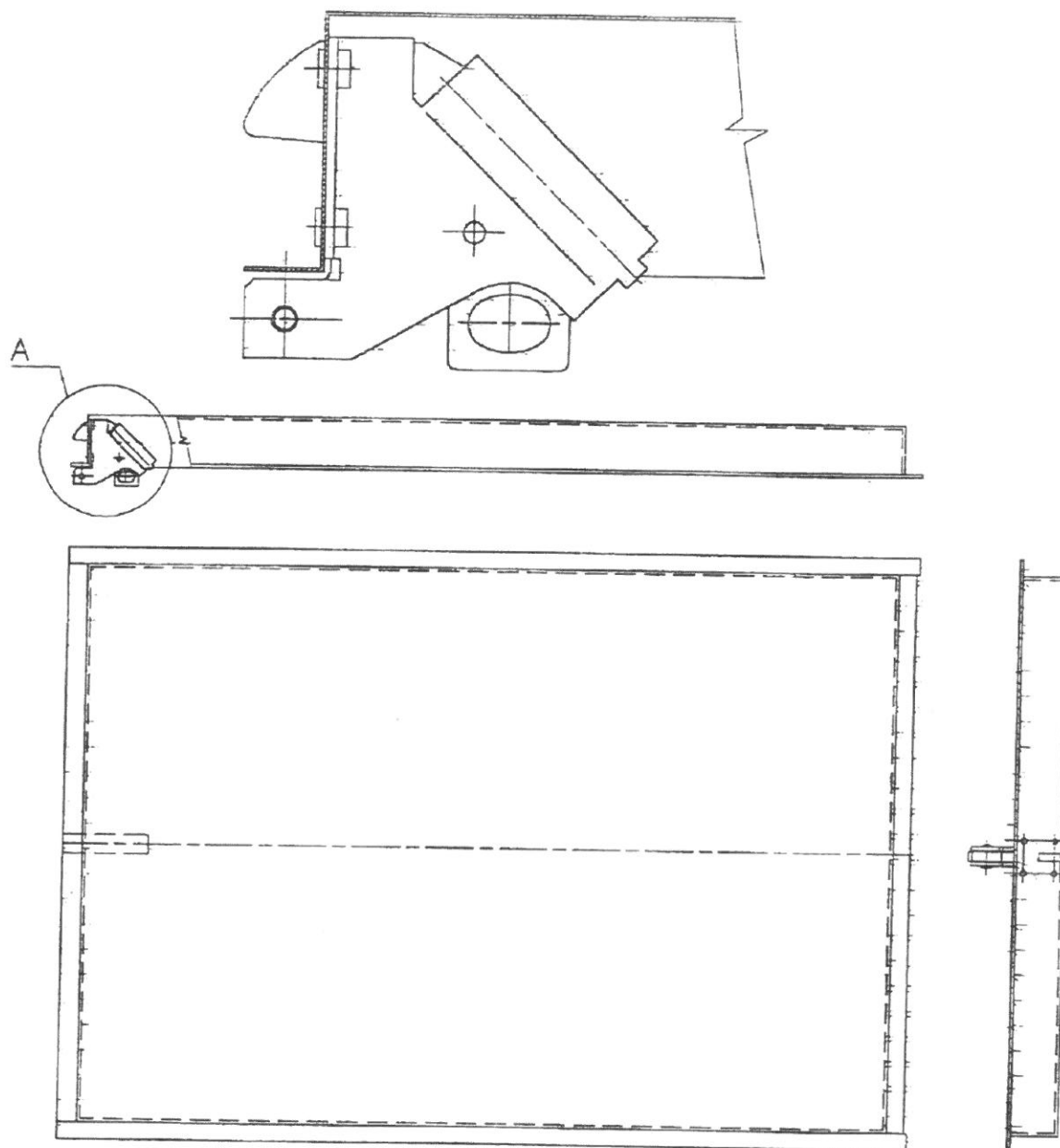
2.1 Hatch structure



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2.2 Hatch structure – lock location

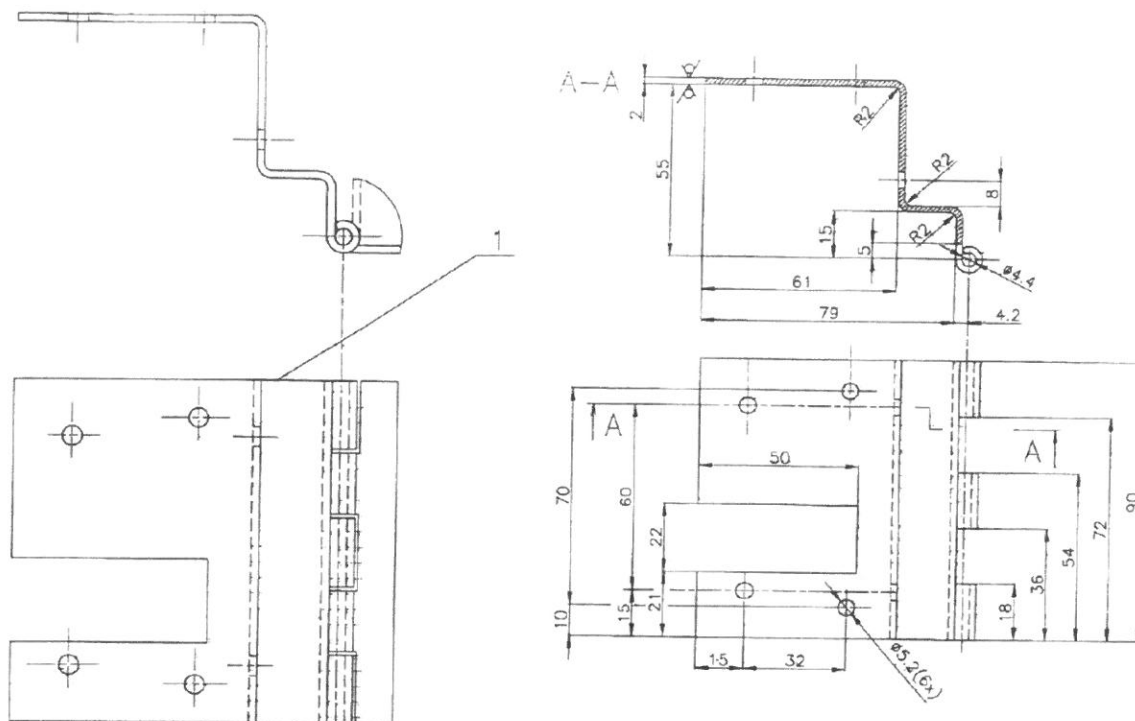
Item A



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3. Rotary hinge

The right rotary hinge



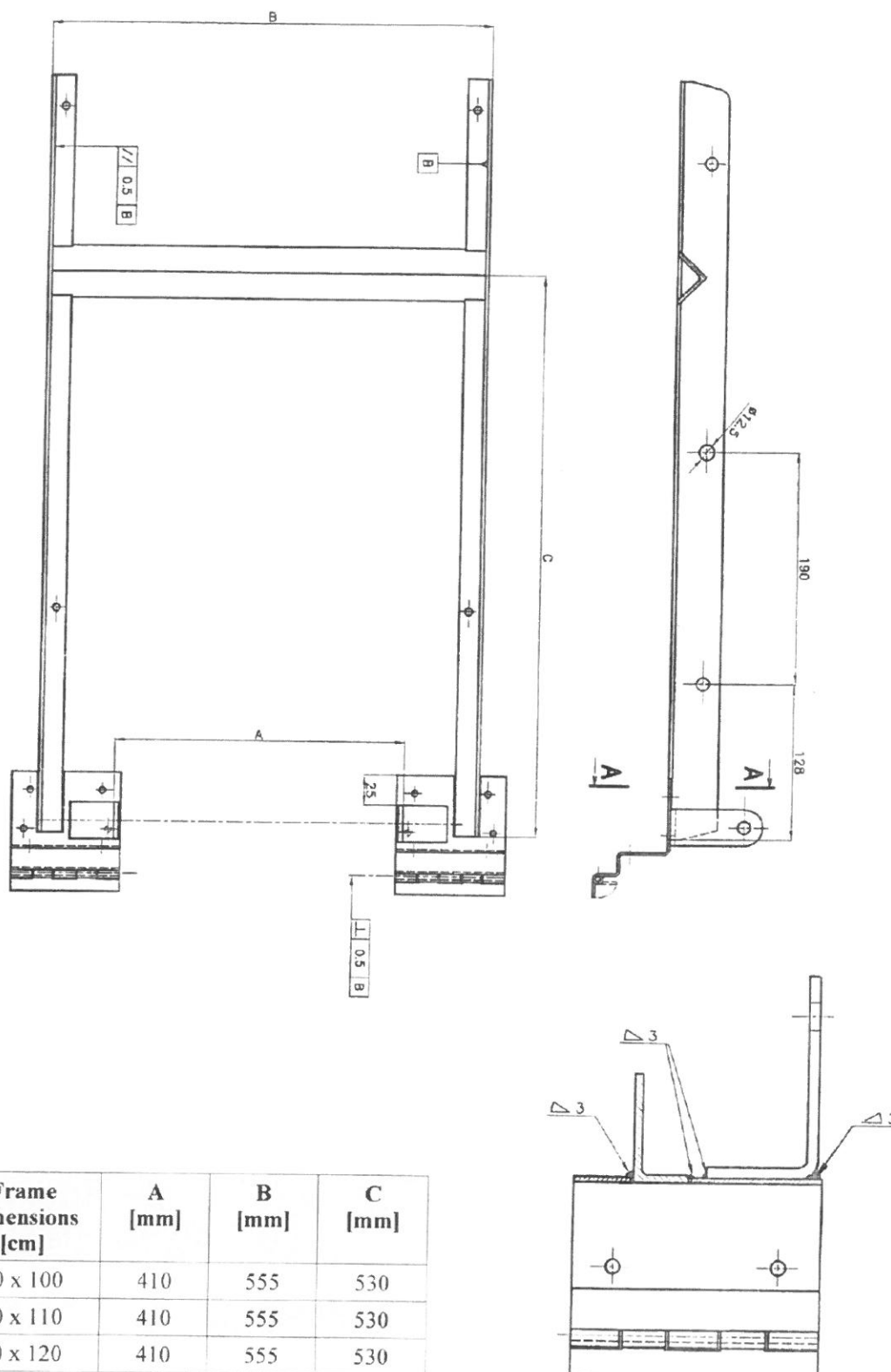
1 – hatch hinge (right), powder coated 2mm thick sheet metal.

The left rotary hinge is a mirror image of the right hinge.

All the hardware elements, including the lock have been manufactured by JAP spol. s.r.o.

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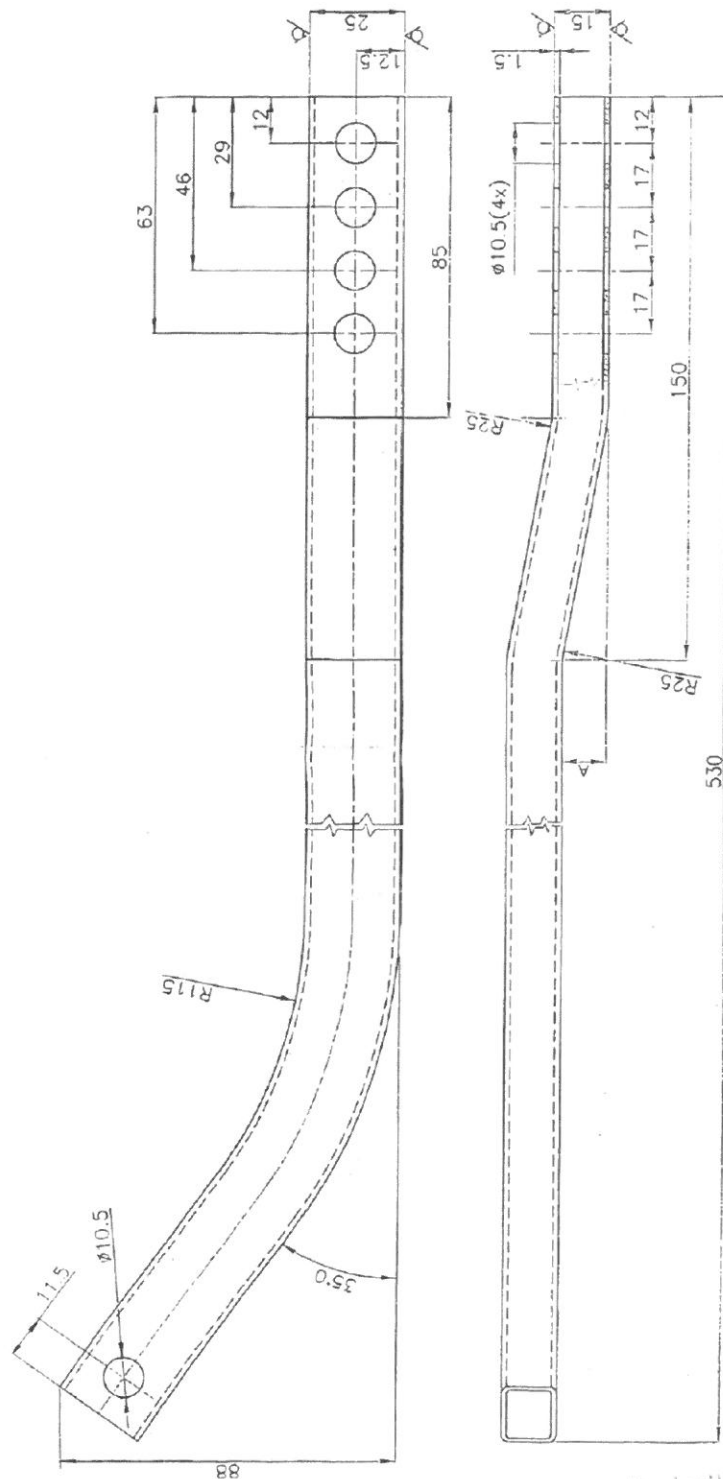
4. Ladder sub-frame



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5. Arm supporting scissors ladder

The right arm supporting the scissors ladder.

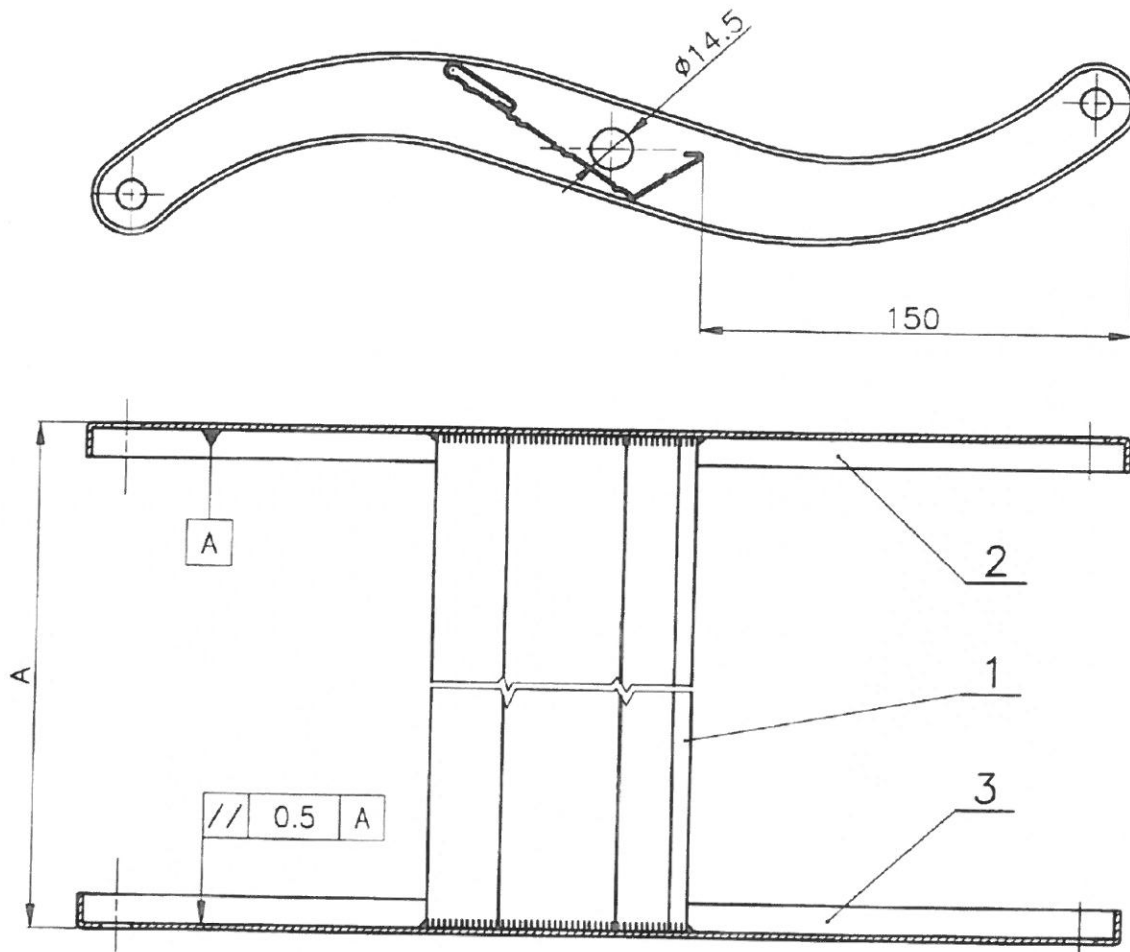


The left arm is a mirror image of the right arm

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6. Scissors loft ladder tread

The tread of scissors loft ladder together with stringers (top view)



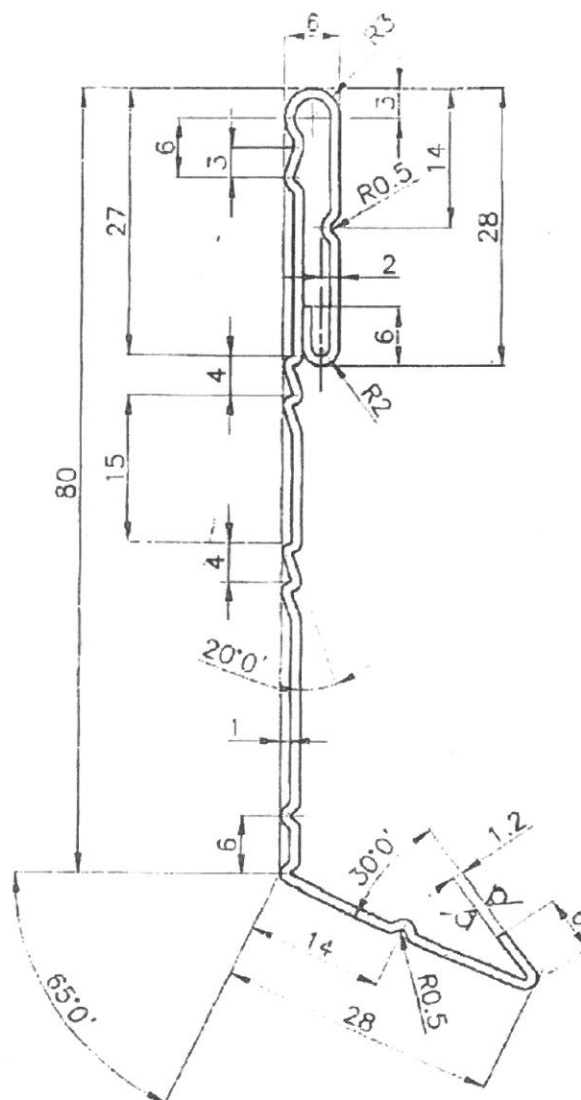
- 1 – tread made of 1.2mm thick sheet metal
- 2 – right stringer made of 2mm thick sheet metal
- 3 – left stringer made of 2mm thick sheet metal

All the above elements are powder coated

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The width of the tread changes depending on the width of the ladder:

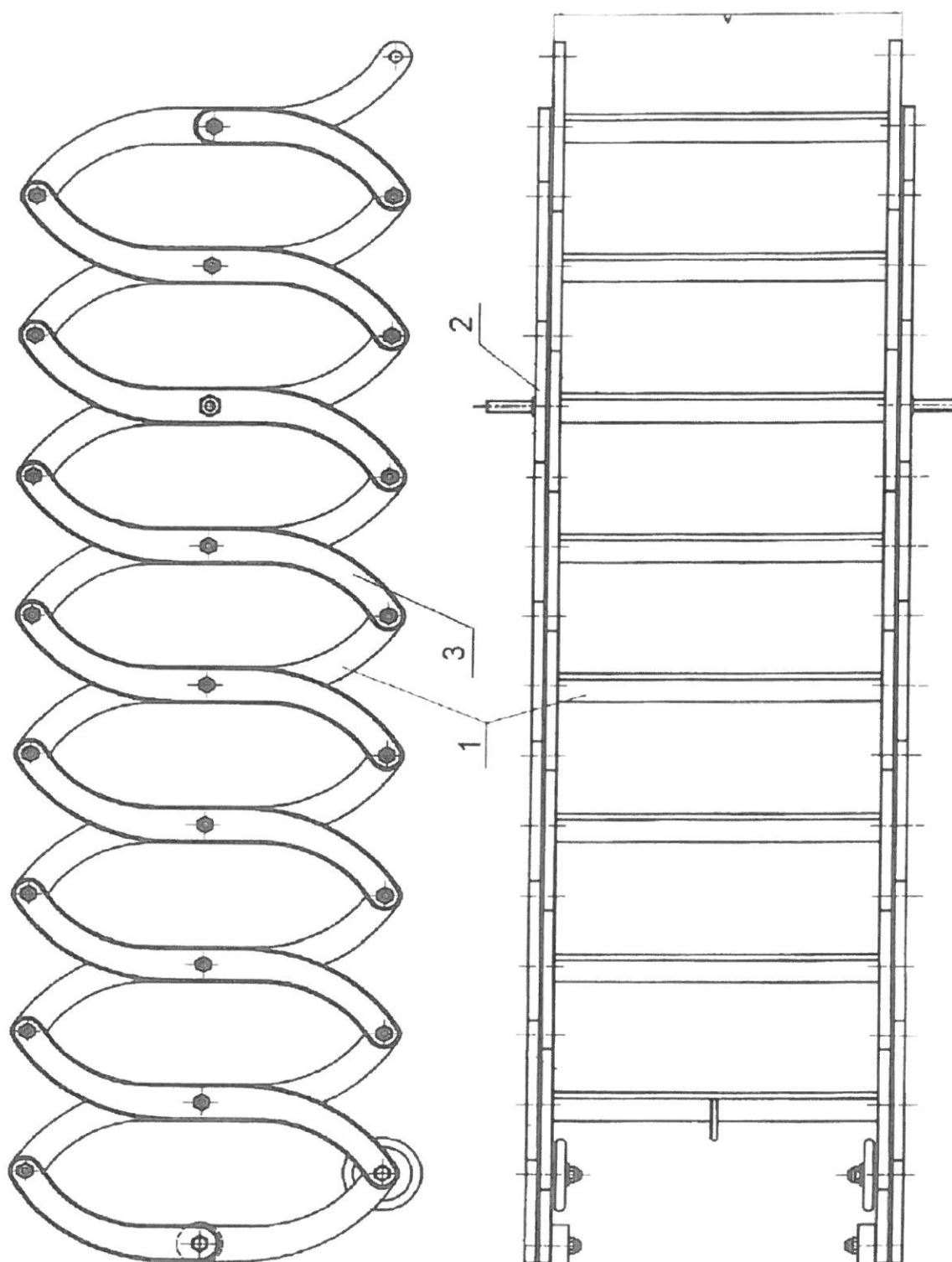
No.	Tread width A [mm]	Ladder width [mm]
1	400	700
2	320	600
3	300	500



Ladder tread

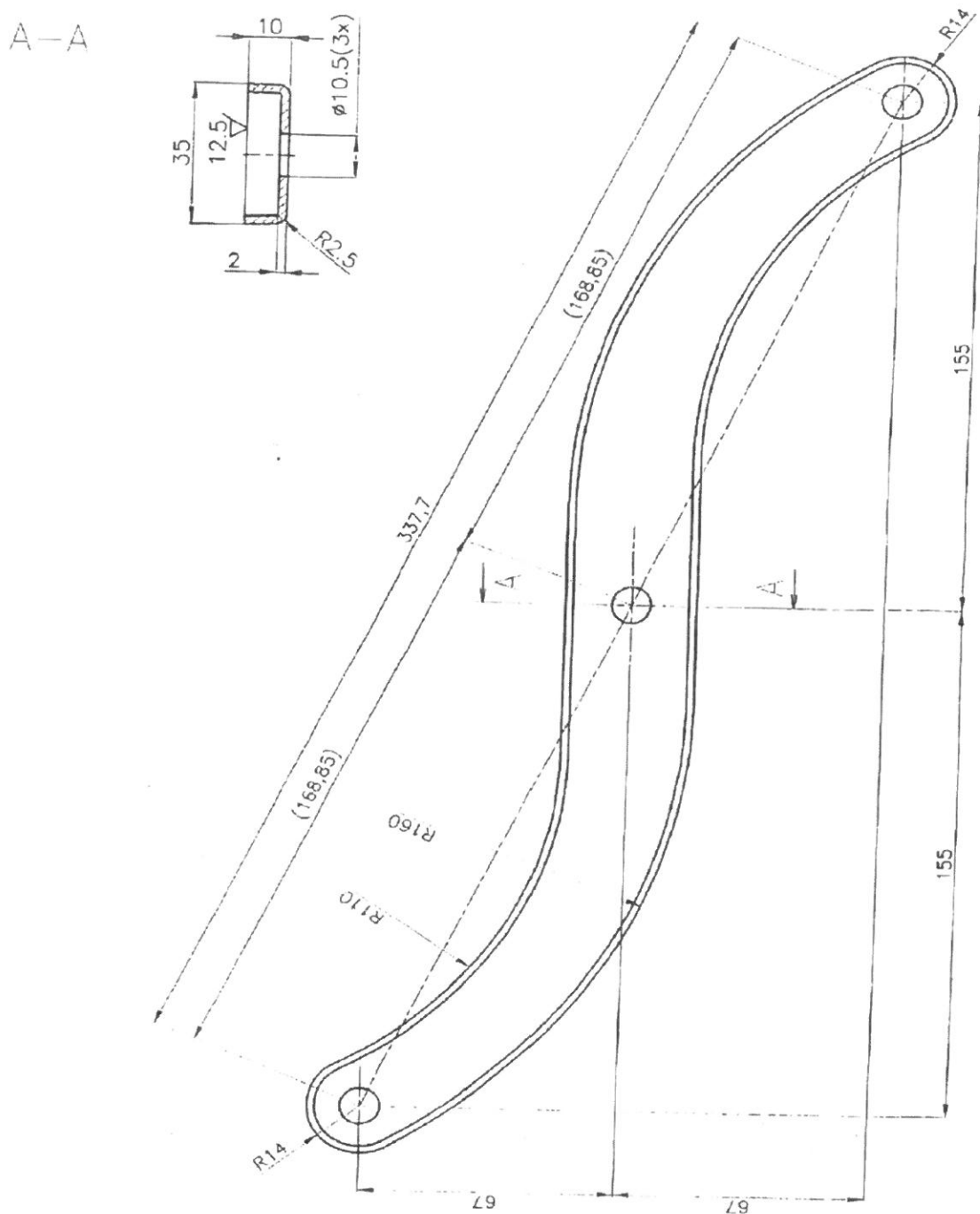
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7. Scissors ladder



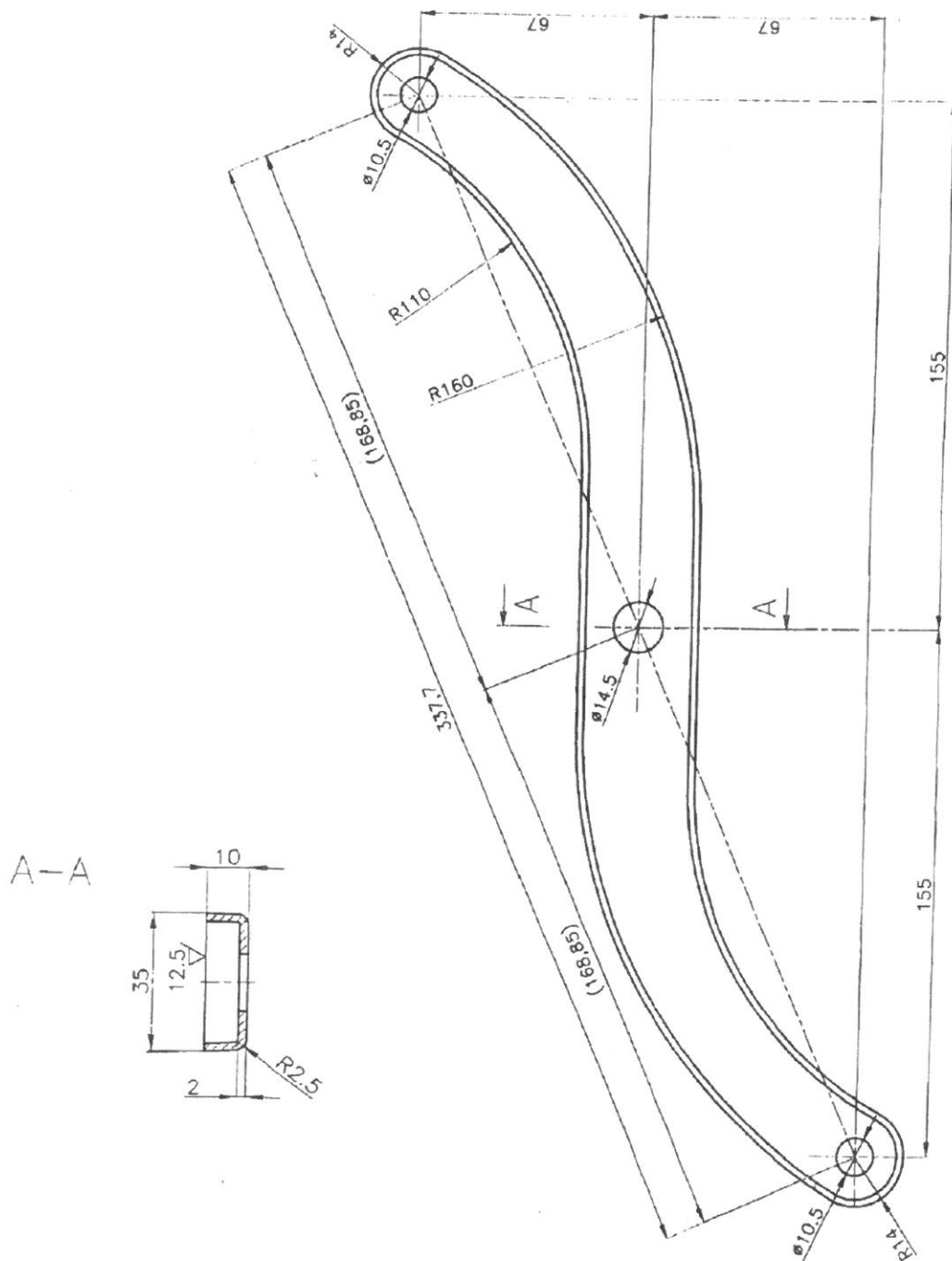
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7.1 Right ladder stringer



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7.2 Left ladder stringer



The stringers not connected to the tread are galvanized.

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8. Assortment

The characteristic dimensions of the scissors loft ladders are presented in Table 1.

Table 1.

Loft ladder dimensions [cm]	Real frame width [cm]	Real frame length [cm]
50 x 70	49	68,5
50 x 80	49	78,5
50 x 90	49	88,5
50 x 100	49	98,5
60 x 70	59	68,5
60 x 80	59	78,5
60 x 90	59	88,5
60 x 100	59	98,5
60 x 110	59	108,5
60 x 120	59	118,5
70 x 80	69	78,5
70 x 90	69	88,5
70 x 100	69	98,5
70 x 110	69	108,5
70 x 120	69	118,5

9. Application range

LSF loft ladders are used to be built into the openings in the ceilings, separating the non-habitable attic space from the living space below. Standard scissors loft ladders can be installed in the rooms with the ceiling heights of up to 3.00m. It is possible to extend the ladder up to the maximum length of 320cm by adding 1 tread LSS.

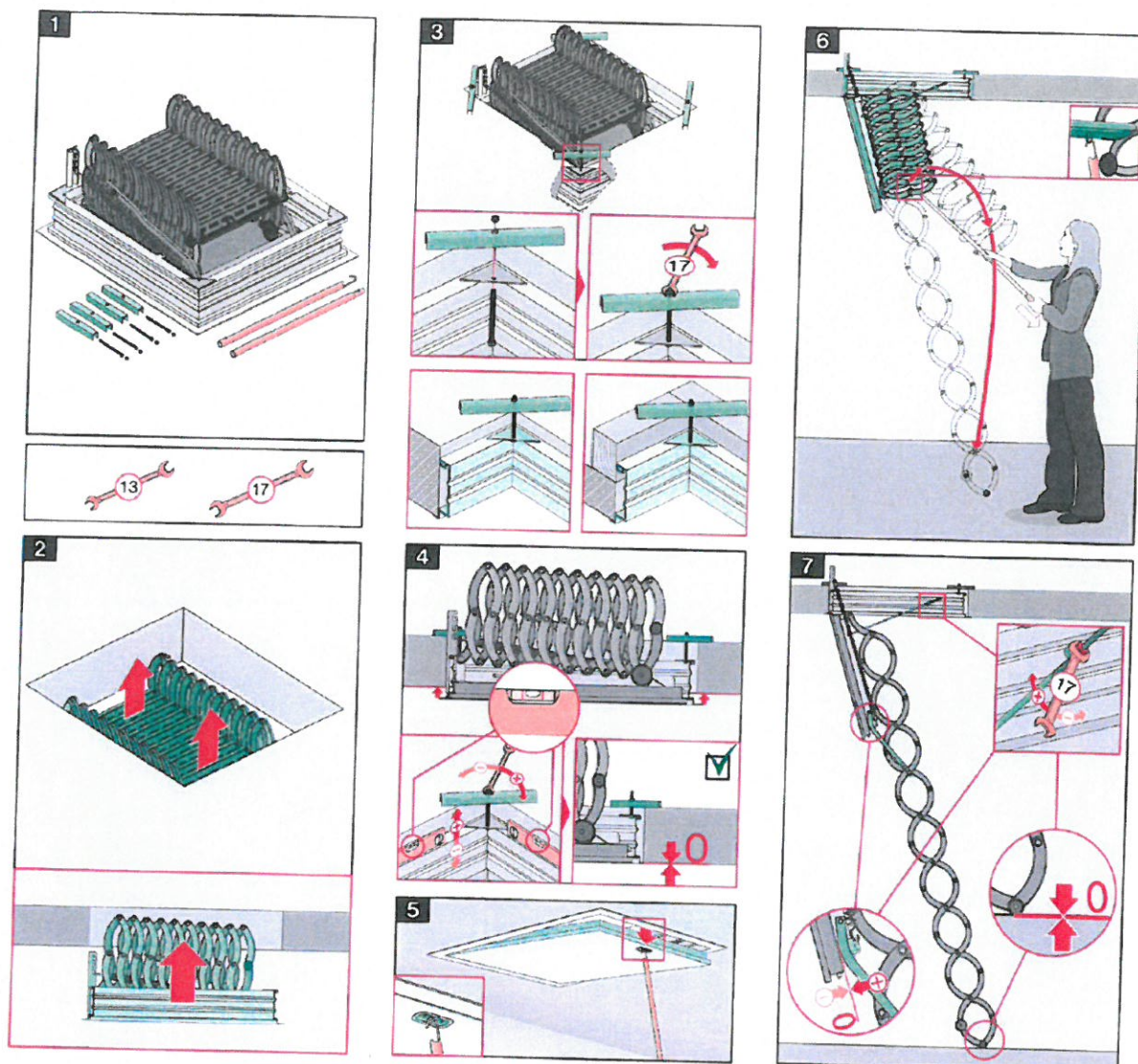
10. Packaging

LSF loft ladders are delivered in the packaging in the form of heat shrink film which protects the product against scratches and dust and provides the possibility to see the ladder without unpacking. The hatch is protected from the bottom by chipboard.

Inside the package, there is included a control rod which allows opening and closing the hatch as well as installation instructions.

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11. Installation instructions



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