127.050

Skyline LED night light

Tools Required:
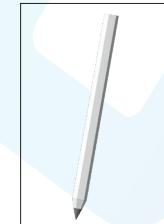
|			
Scissors	Jig saw	Pencil	Ruler
Sandpaper	Drill Wood/plastic ø 2 ø 5 ø 10	Pencil	Superglue
Hot glue gun	Soldering iron	Adhesive tape	Pricker
Screwdriver	Forstner drill ø25	Wire stripper	
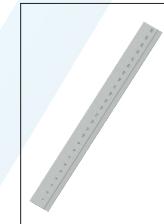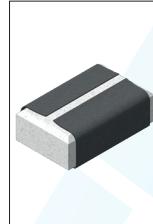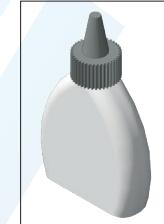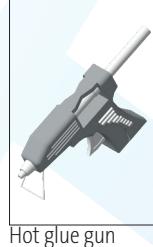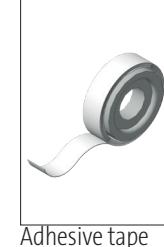
NOTE:

The OPITEC range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation! Not suitable for children under 36 months. Choking hazard!

| Part List	Quantity	Dimensions (mm)	Description	Part no.
Plywood	1	300x210x4	Base frame	1
Acrylic glass	1	250x30x4	Construction	2
Acrylic glass tube	1	ø6/10x245	Construction	3
Micro slide switch	1	19x6	Switch	4
Luster terminal strip	1	2PL	Wiring	5
USB-charging Cable	1		Connection cable	6
LED blue	1	ø8	Lighting	7
Rainbow LED	1	ø5	Lighting	8
Socket	1	E10	Lighting	9
Switching wire red+switching wire black	1	2x500	Wiring	10
Resistor 120 Ohm	1		Resistor	11
Countersunk head Phillips screw	4	2,2x6,5	Fastening	12

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The structure can be designed as a staircase or a pyramid. To do this, select the appropriate template for the plywood.

1
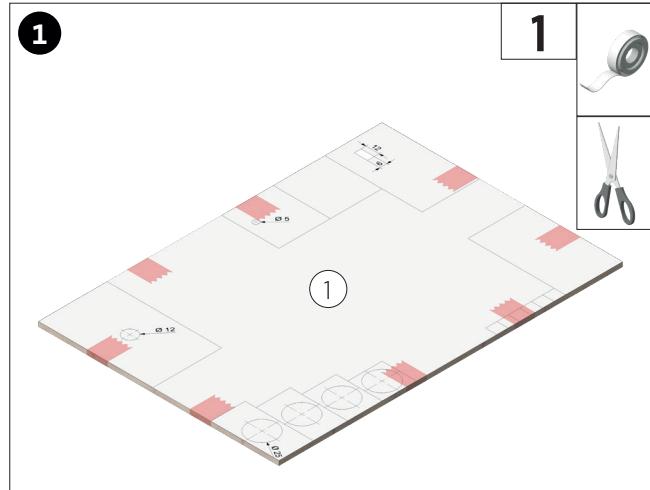
Cut out template A or B for the plywood, glue together and fix or transfer to the plywood panel (1).

2
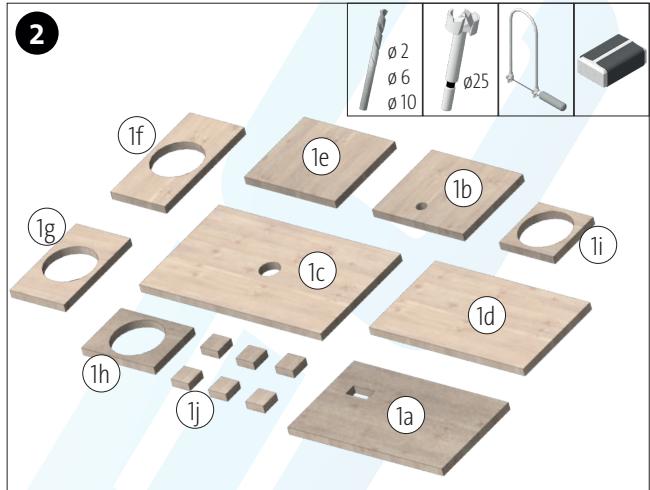
Drill through the holes and then saw out all the individual parts (1a-1j). Clean the saw cuts.

3
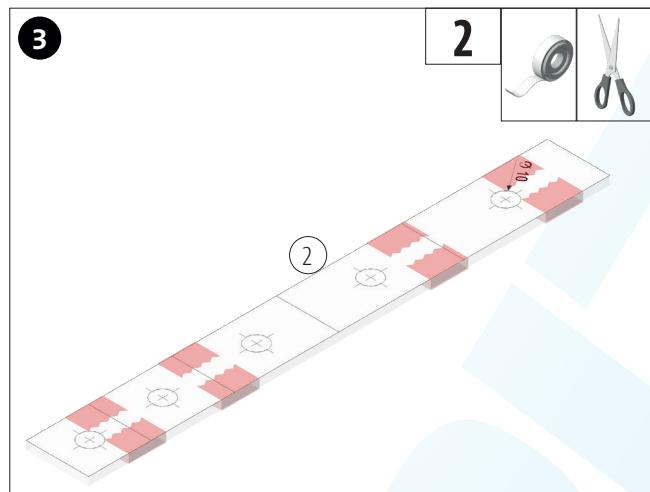
Cut out template C for the acrylic glass structure and fix or transfer to the acrylic glass strip (2).

4
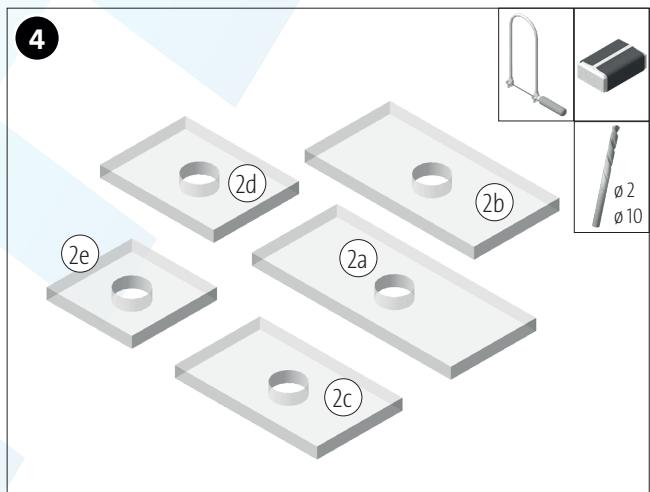
Drill through holes. To do this, pre-drill with a ø2mm drill and then carefully drill the ø10mm hole from both sides. Cut the individual parts (2a-2e) to length. Clean the saw cuts.

5
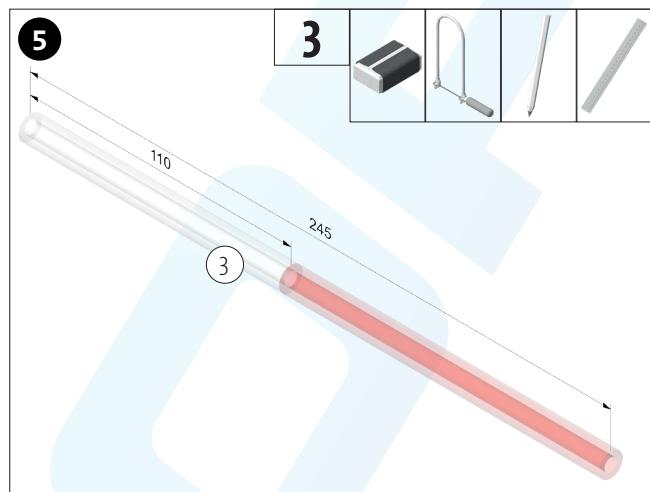
Measure and mark 110 mm on the acrylic tube (3). Then cut to length and clean the saw cut.
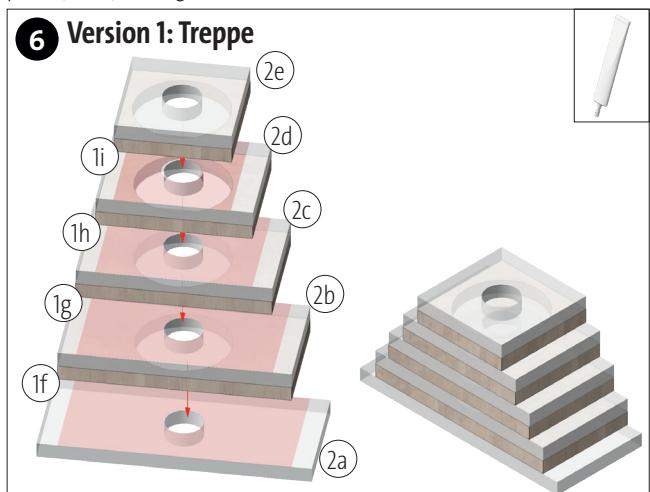
6 **Version 1: Treppe**

Glue the acrylic glass blanks (2a-2b) to the wooden blanks (1f-1i) as shown in the illustration to create a stepped structure on both sides.

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6 Version 2: Pyramide
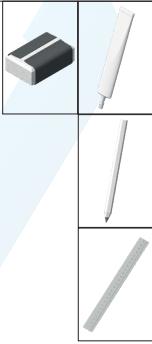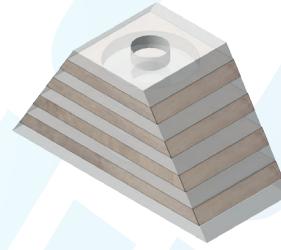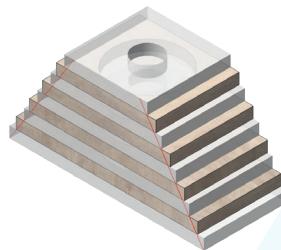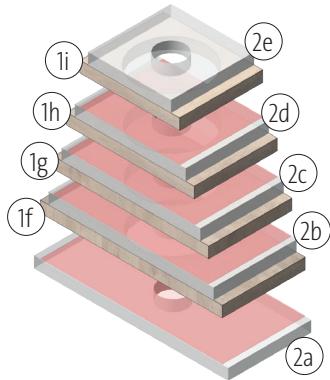
Glue the acrylic glass blanks (2a-2b) to the wooden blanks (1f-1i) as shown in the illustration to create a stepped structure on both sides. Then scribe the pyramid shape on the end faces and sand the steps flat.

7 | 12 | 4
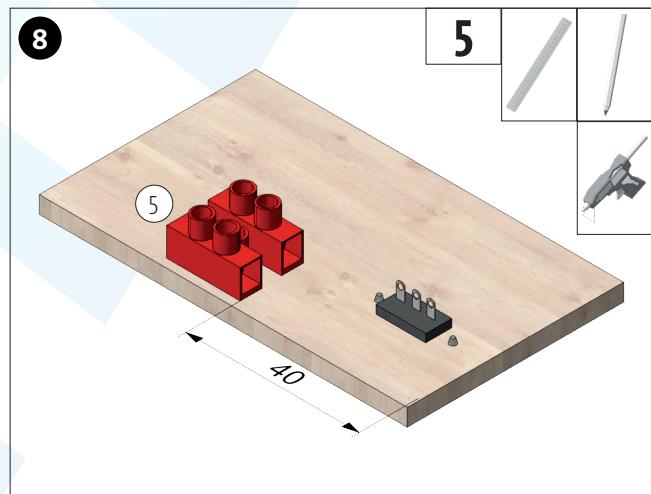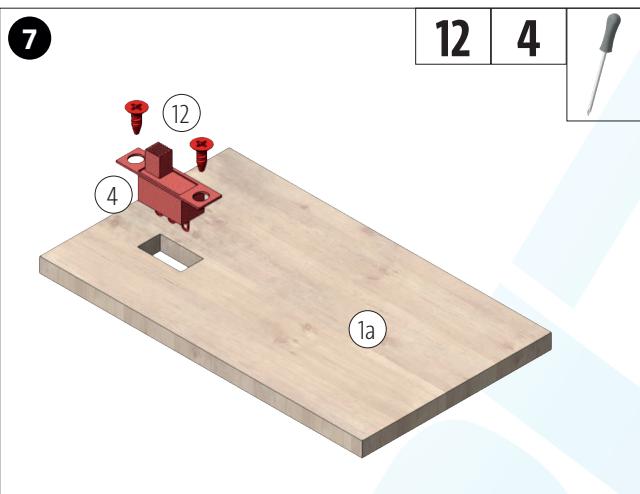
Place the slide switch (4) in the opening provided in the wooden part (1a) and fasten with 2 screws (12).

8 | 5

40

Mark the position of the lustre terminal strip (5) and fix it in place with hot glue.

9
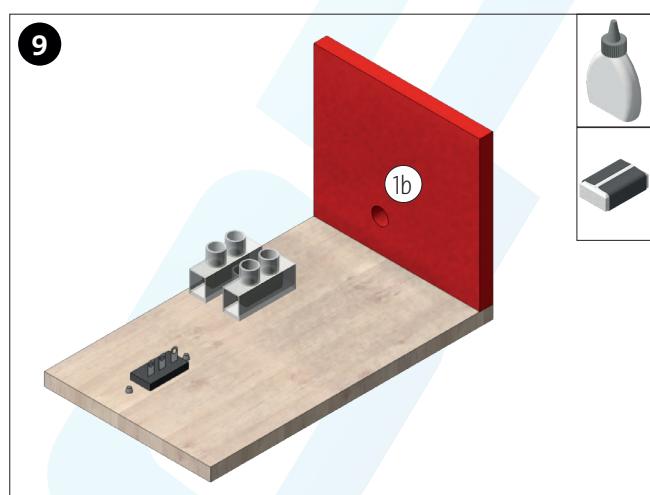
Glue on the side panel with the hole for the cable gland (1b) as shown. Allow glue to dry well. Sand the edges clean before the cable entry.

10 | 6
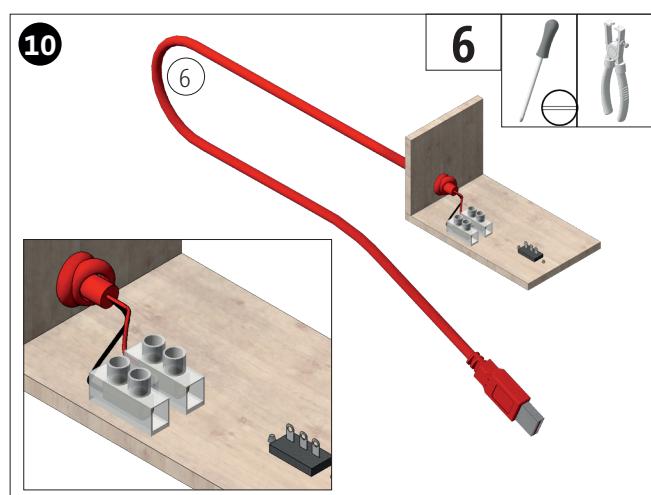
Strip approx. 20 mm of insulation from the connection cable (6). Strip approx. 5mm of the insulation from the two inner cables (red/black). Feed the cable through the hole from the outside and tie a knot to prevent the cable from slipping out. Then fix in the lustre terminal as shown.

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11 | **10**
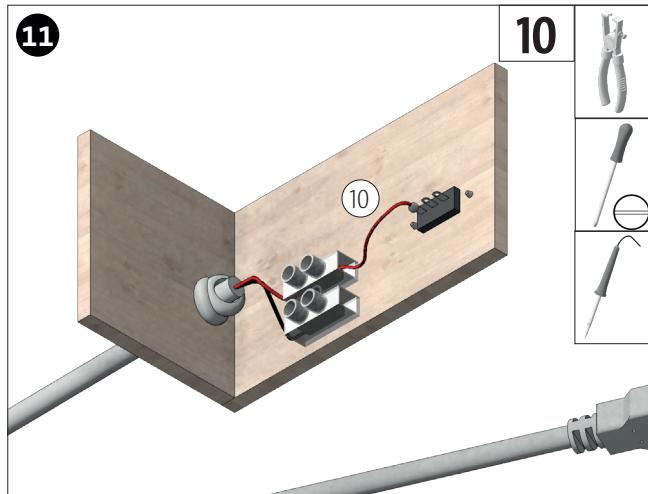
Strip a piece of the red switching wire (10) at both ends and connect one end to the lustre terminal. Solder the other end to the outer switch connection.

12 | **10** | **9**

- Pole   +Pole

Strip approx. 45 mm of insulation from both sides of the red and black switching wire (10) and solder to the poles of the E10 socket (9). Connect the black cable to the lustre terminal. Solder the red cable to the centre switch connection.

13 | **11**

Solder the resistor (11) to the positive pole of the socket as shown.

14 | **8**

Anode long leg + Pole | Cathode short leg - Pole
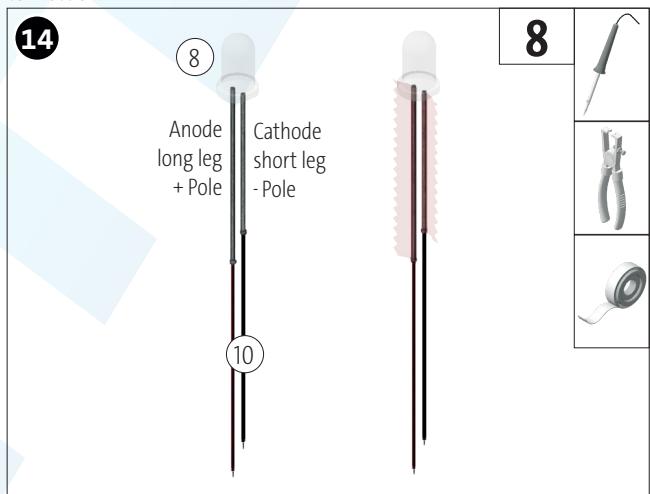
Strip approx. 40 mm of the red switching wire (10) on both sides and solder to the anode of the rainbow LED (8). Solder another 40mm long piece of the black switching wire (10) stripped on both sides to the cathode. Then insulate both connecting legs with adhesive tape.

15

Solder the red cable of the rainbow LED (8) to the free leg of the resistor (11). Solder the black cable to the terminal of the E10 socket (9).

16 | **7**
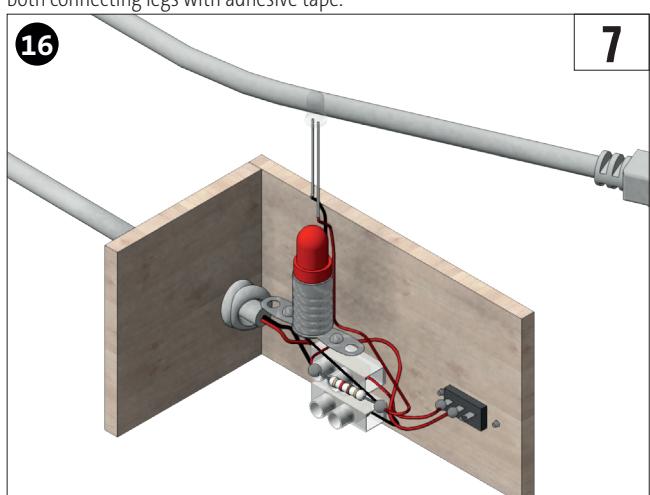
Screw the blue LED (7) into the E10 socket (9). Then connect the cable to a USB socket (type A), switch on and check the function.

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17 | 1c | 1j
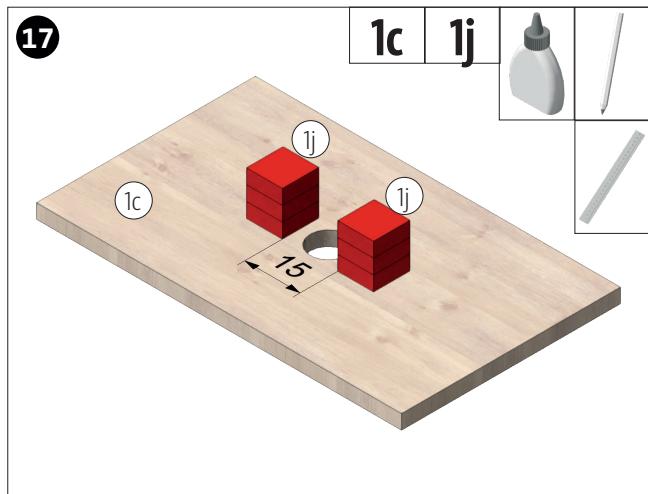
Take the cover plate of the base frame (1c) and glue on 3 of the wooden parts (1j) next to the centre hole, spaced as shown. Allow glue to dry well.

15

18
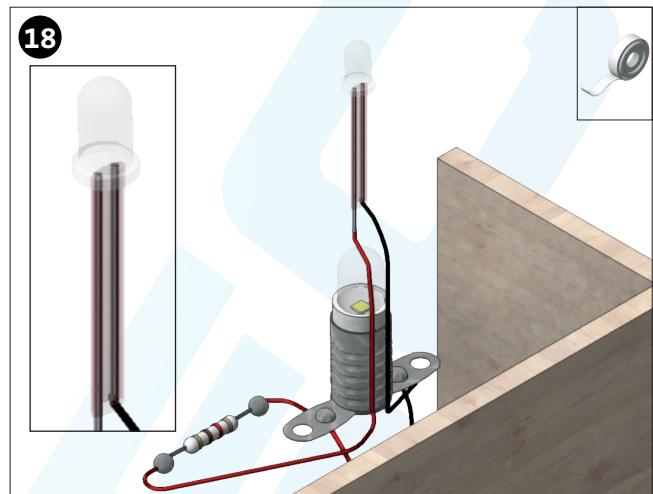
For stability, wrap the connecting legs of the rainbow LED (8) again with adhesive tape. NOTE: No bare wires or soldered joints may touch each other.

19 | 1c

7.5

3.5
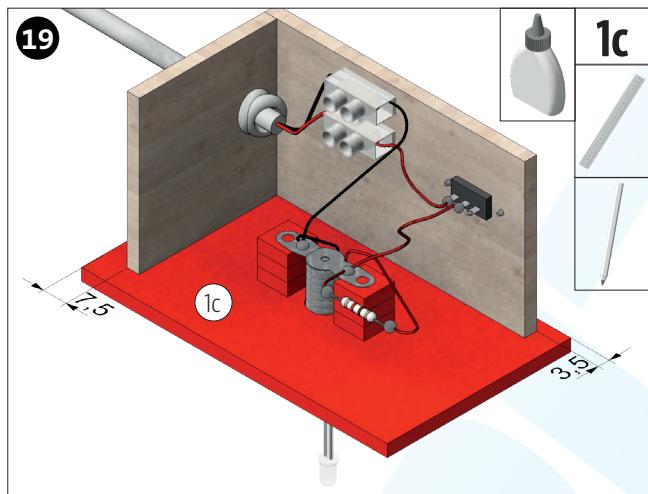
Glue the two outer wall sides to the base frame cover panel (1c) as shown. Guide the rainbow LED (8) through the hole. Insert the blue LED in the E10 socket (7/9) through the hole so that the connection lugs of the socket are positioned on the wooden blocks (1j).

20 | 12
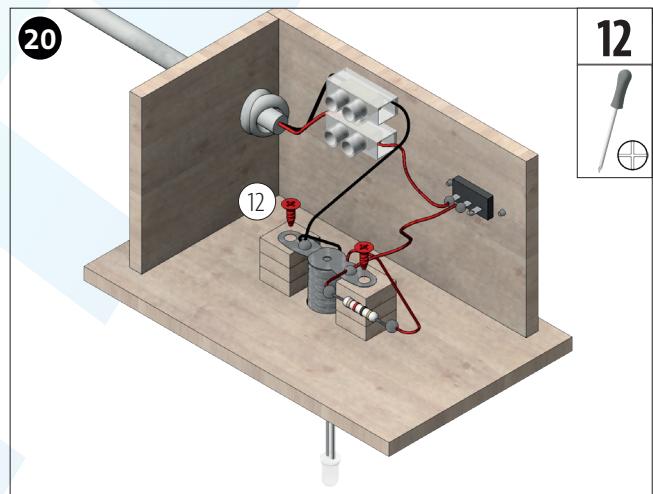
Fasten the socket (9) with two screws (12).

21 | 1e | 1d
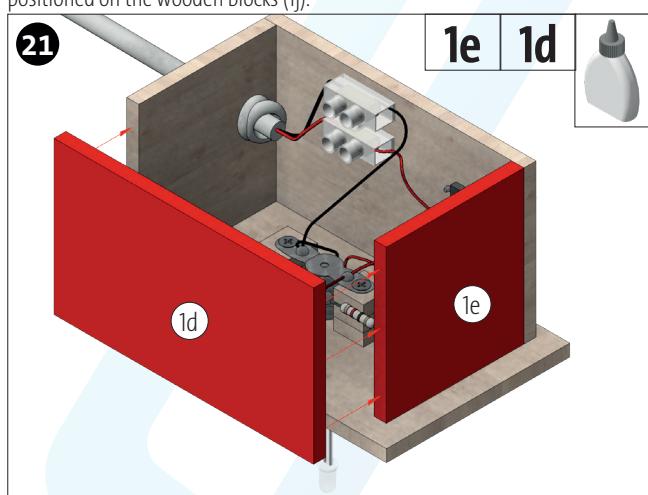
Glue on the side parts (1d+1e). Allow glue to dry well.

22
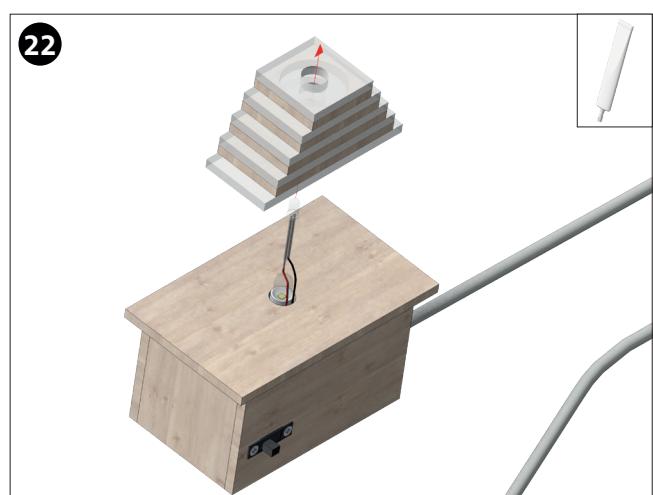
Guide the rainbow LED (8) through the hole in the body. Then glue on the centre of the body.
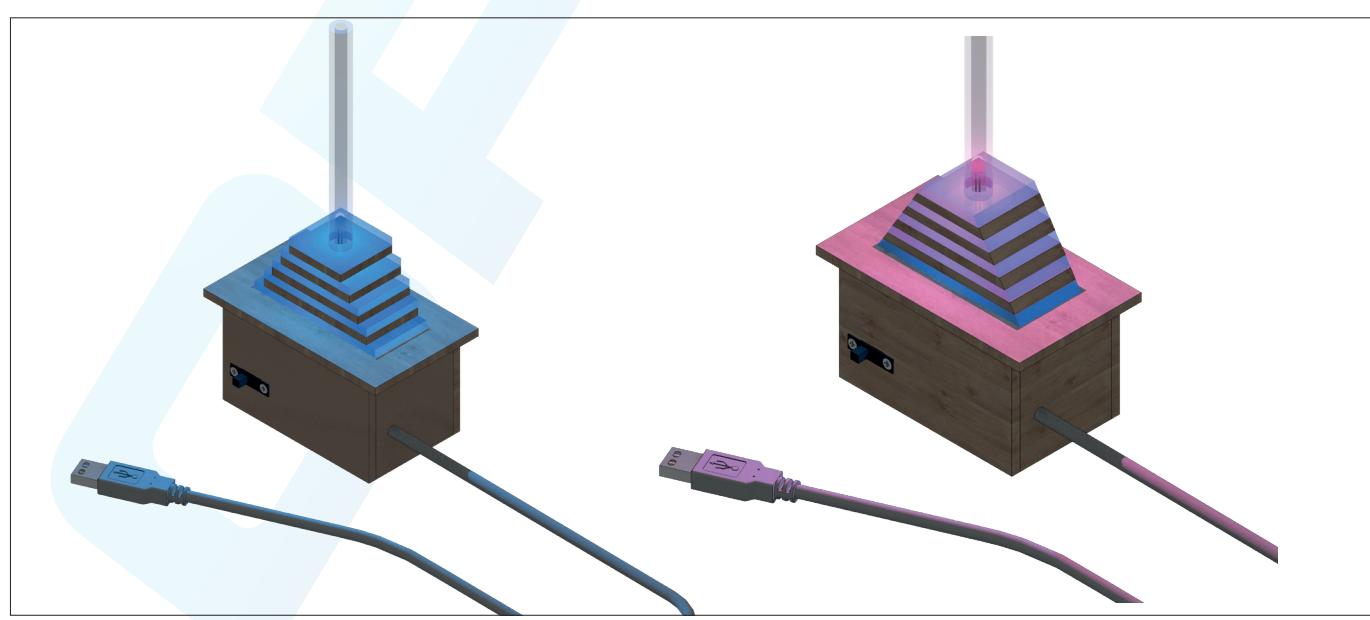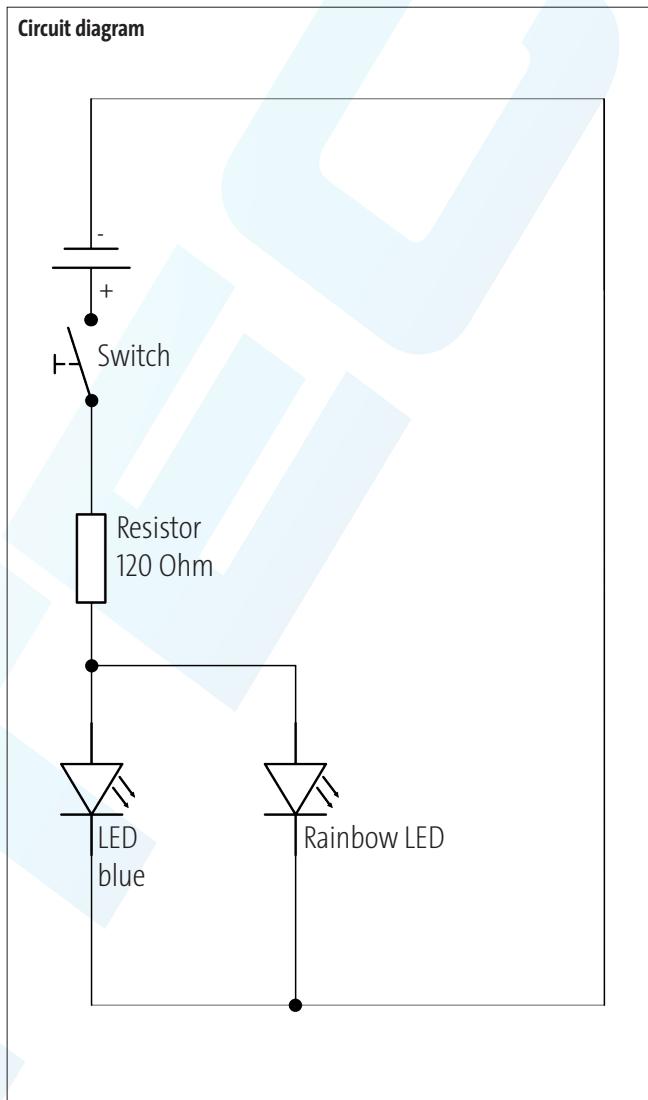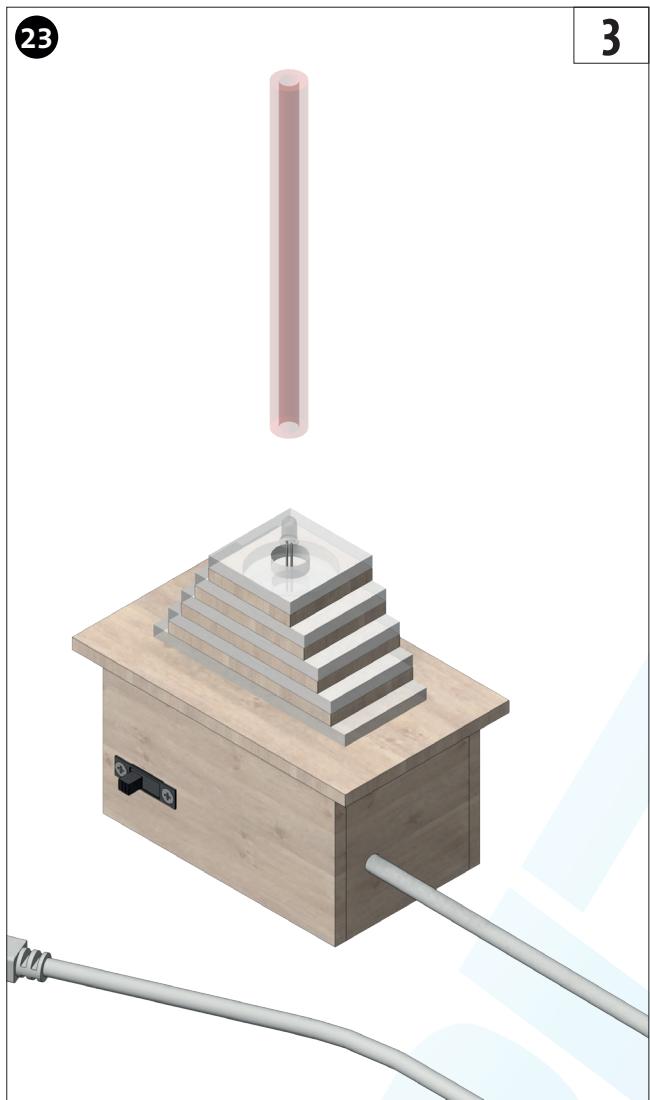
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23 | **3**

Attach the acrylic tube (3). Done!

Circuit diagram

-

+

Switch

Resistor
120 Ohm

LED
blue

Rainbow LED

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Instructions 127.050
Skyline LED night light
Template A Wood structure stairs
M1: 1

9

12

Ø 5

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Instructions 127.050
Skyline LED night light
Template B Wooden pyramid structure
M1: 1

12
9

Ø 5

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Instructions 127.050
Skyline LED night light
Template A Wood structure stairs
M1: 1

Ø 25

Ø 12

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Instructions 127.050
Skyline LED night light
Template B Wooden pyramid structure
M1: 1

Ø 25

Ø 12
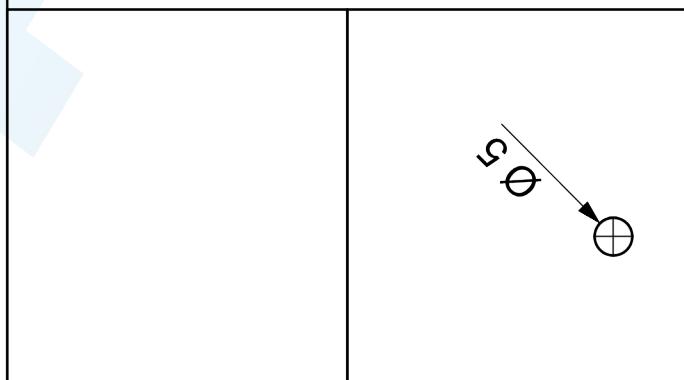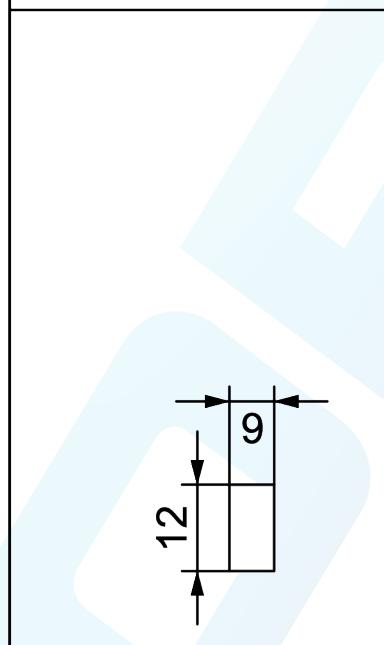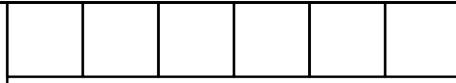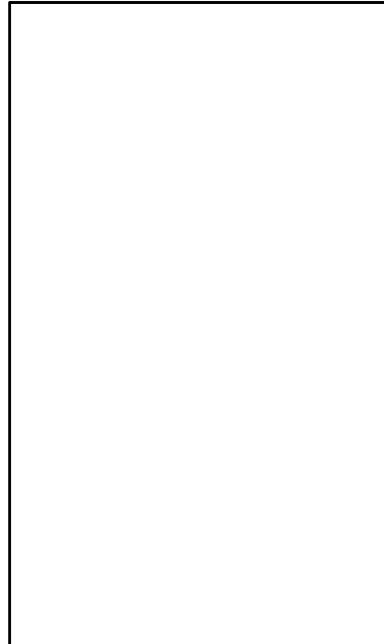
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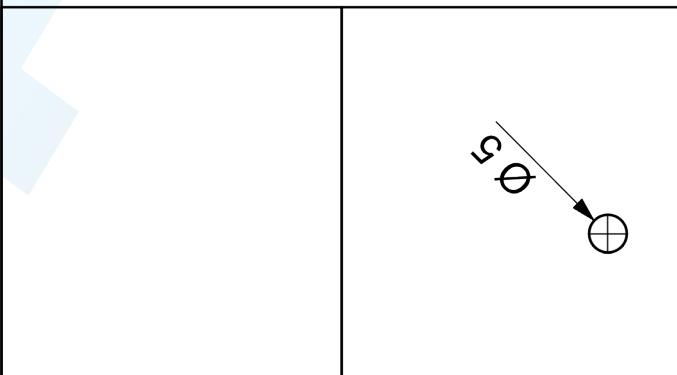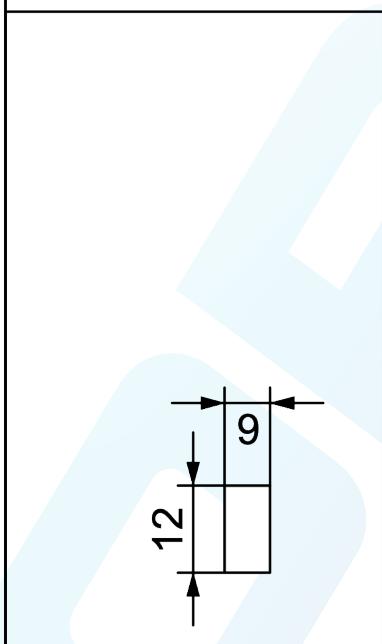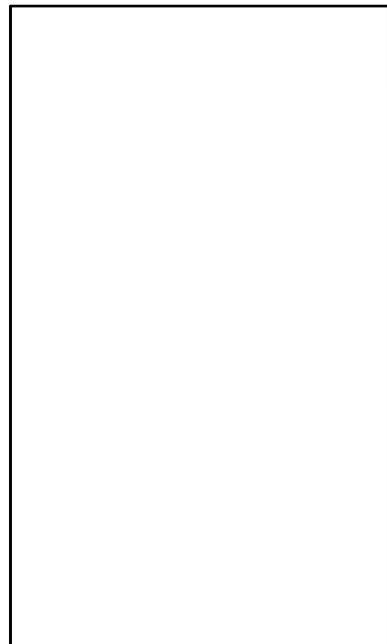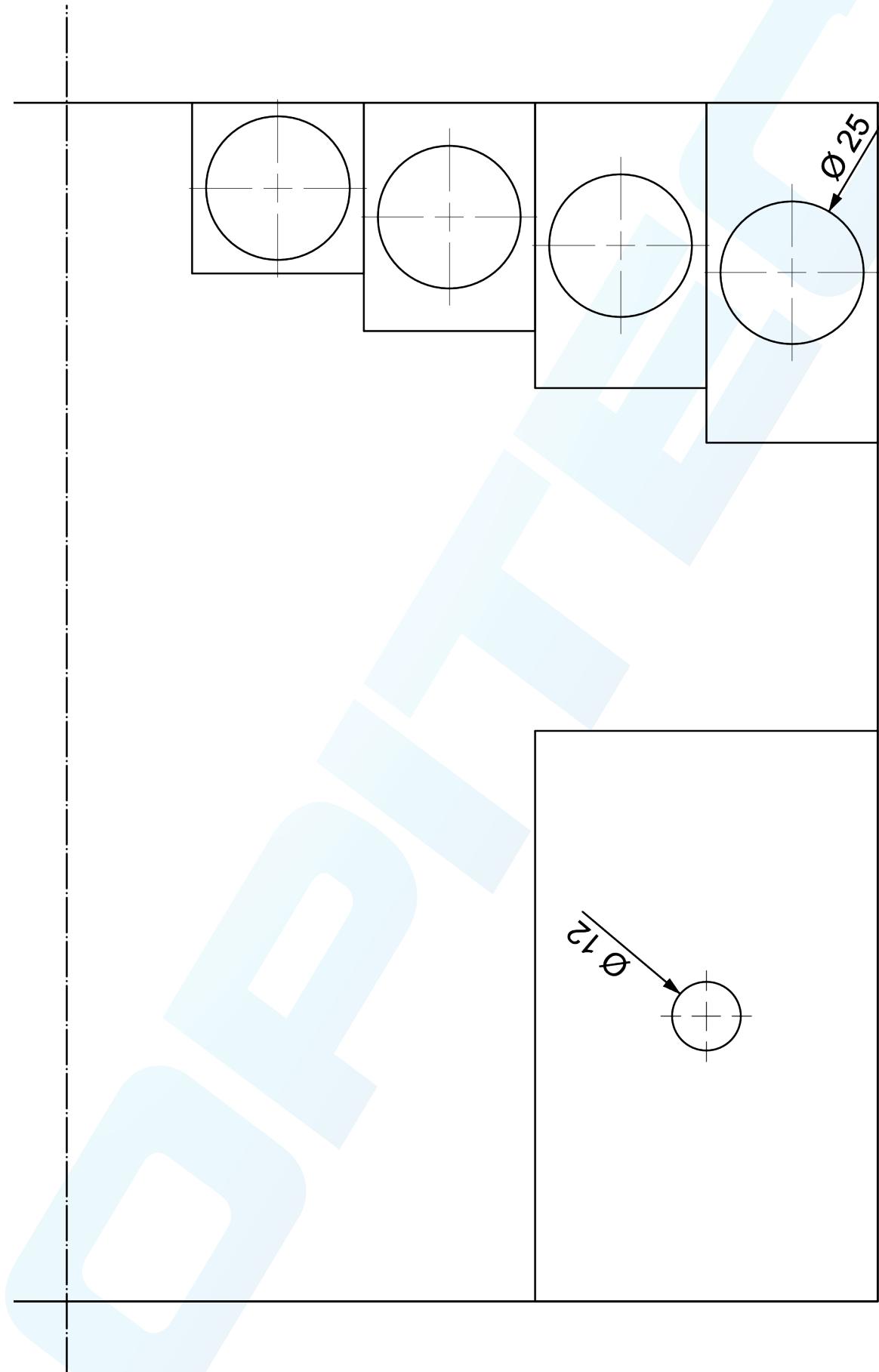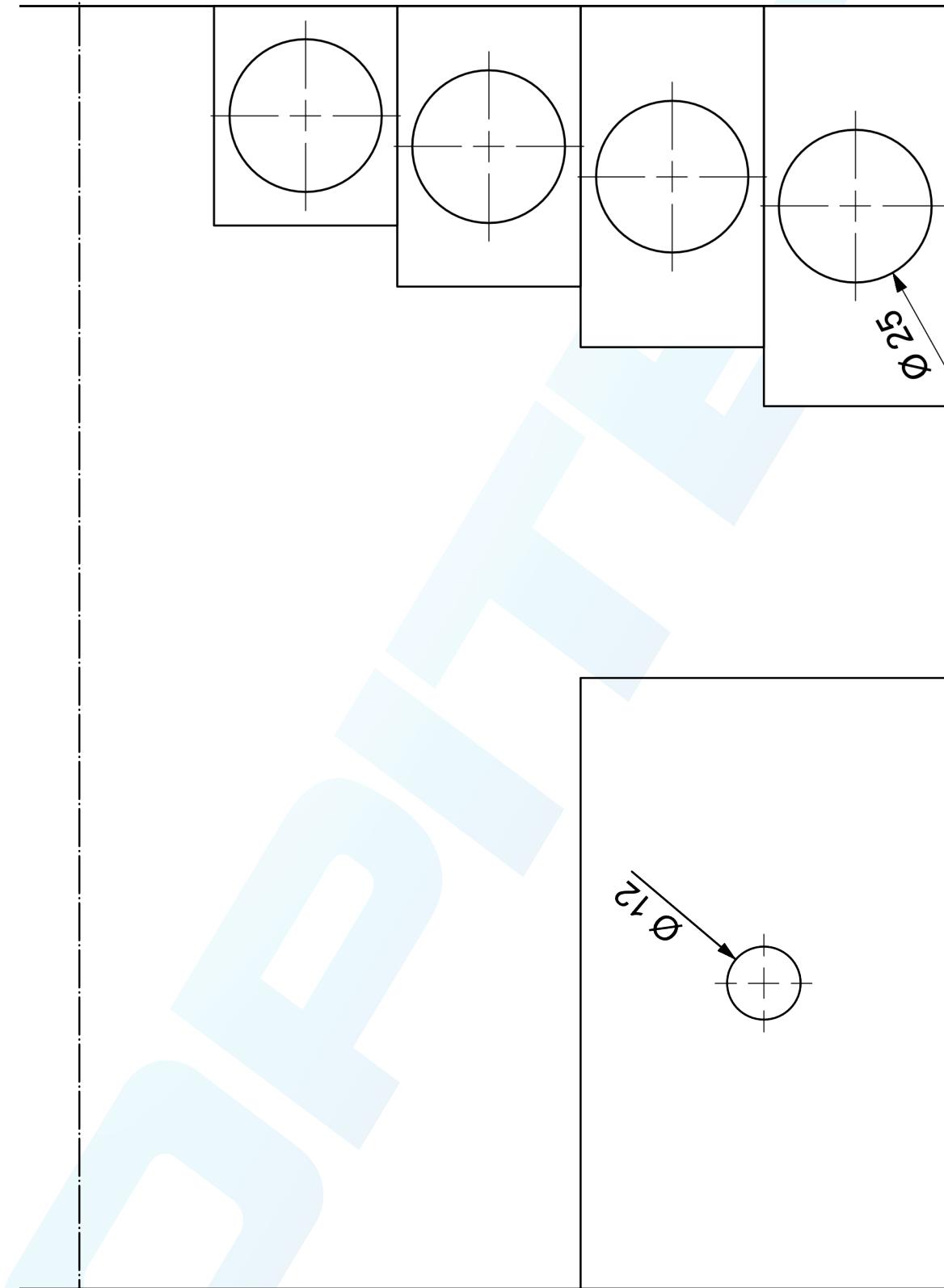
Instructions 127.050
Skyline LED night light
Stencil C acrylic glass
M1: 1

30

Ø 10

70

60

250

50

40

30

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