

Safety Element SE 1 TPE

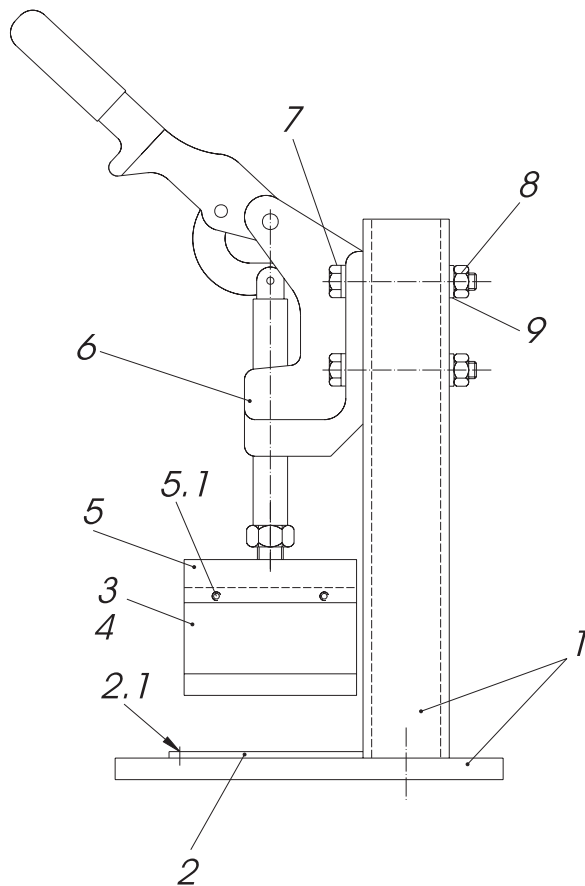
DIY Assembly: Moulding technology

- 1 Double cutting device**
- 2 Sealing device ASW 1-1**
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Subject to technical modifications.

Do-it-yourself
SE 1 TPE
Moulding technology

Double cutting device

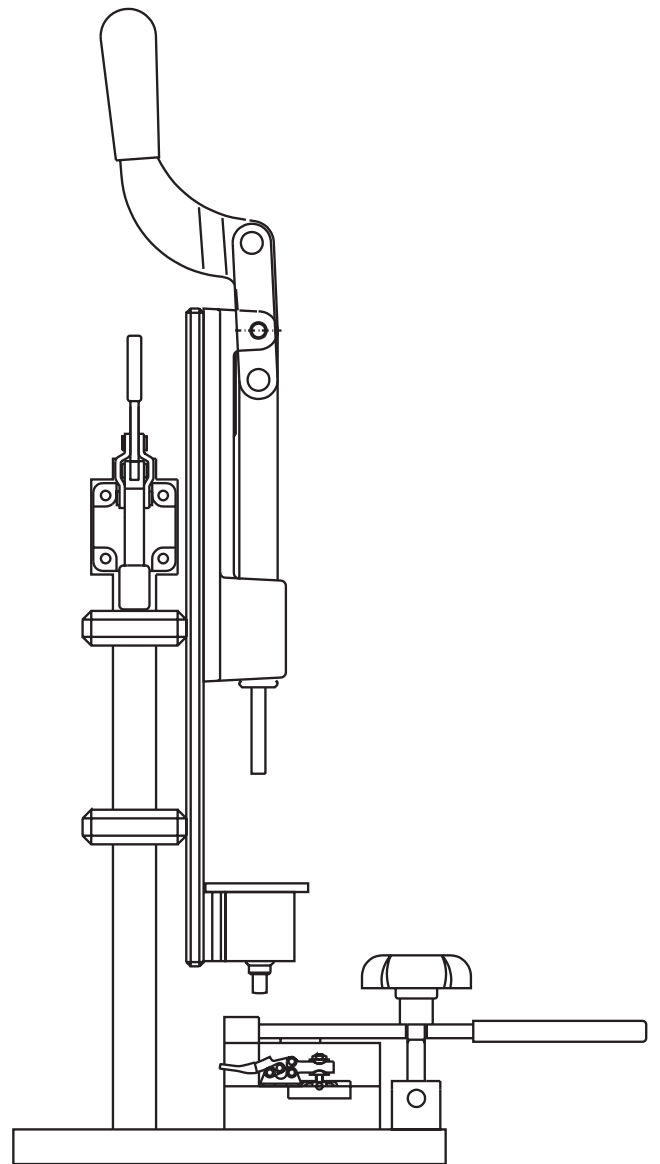
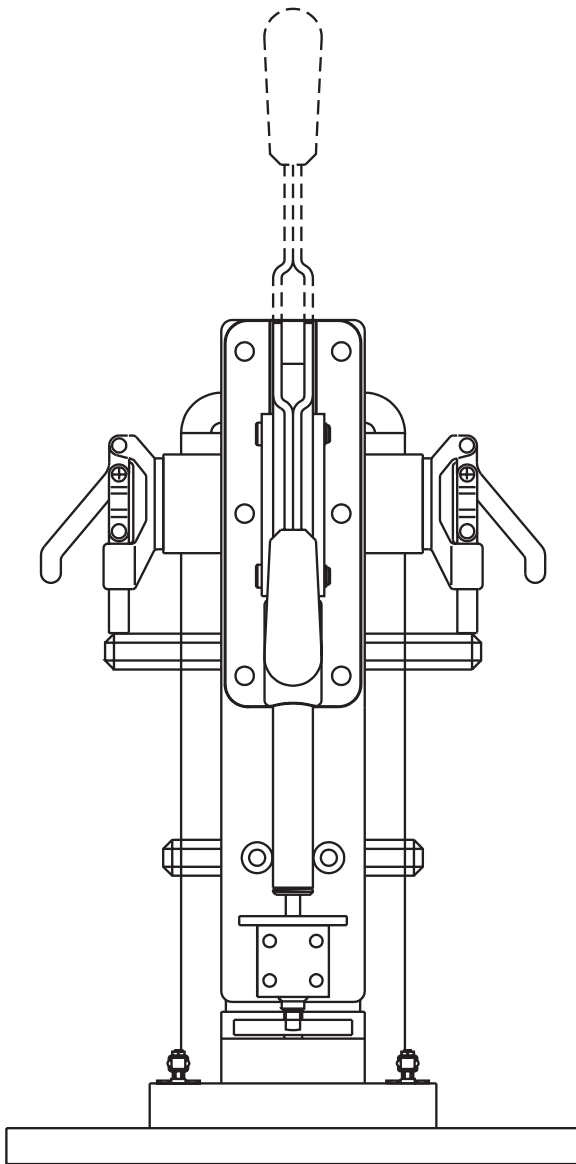


9	8	pcs.	disc	1001678	zinc-plated DIN 125-B
8	4	pcs.	screw nut	1001677	zinc-plated DIN 934
7	4	pcs.	screw	1001676	zinc-plated DIN 931
6	1	pcs.	tightener	1001679	
5.1	6	pcs.	set screw M4X6	1002150	DIN 913
5	1	pcs.	blade support	S90196-8	
4	2	pcs.	blade	S90196-6	steel hoop
3	1	pcs.	blade	S90196-3	steel hoop
2.1	2	pcs.	cap screw M5X16	1000729	zinc-plated DIN 912
2	1	pcs.	profile guiding mechanism	S90196-7	aluminium
1	1	pcs.	basic frame	S90196-2	zinc-plated
<i>Pbs.</i>	<i>Qty.</i>	<i>Unit</i>	<i>Designation</i>	<i>Part n° / Drawing</i>	<i>Material / Standard</i>

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Sealing device ASW 1-1

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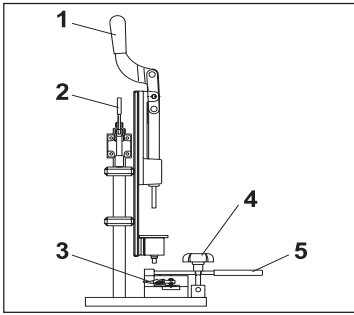
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Moulding technology

Materials list

Part n°	Designation	Pack. unit
7500270	Contact tubing TPE, 18 mm	50 m
7500480	Squirting cartridge	200 pcs.
1001854	PCB with cable 0.4 m	100 pcs.
1001702	PCB with cable 2.0 m	100 pcs.
1001703	PCB with cable 5.0 m	100 pcs.
1001704	PCB with cable 10.0 m	25 pcs.
1001701	PCB with diode	50 pcs.
1001705	PCB with resistor 1.2 k Ω	100 pcs.
1001706	PCB with resistor 8.2 k Ω	100 pcs.
1001707	PCB with resistor 22.1 k Ω	100 pcs.
1002139	Squirting device ASW 1-1	1 pc.
7500496	Double cutting device	1 pc.
7500492	Contact tubing dispenser	1 pc.

Subject to technical modifications.



Assembly instructions DIY SE I TPE Moulding technology

DIY: A finished Safety Element SE I TPE in just 8 steps

Before beginning, first switch on the temperature regulating device ($260\text{ °C} \pm 10\text{ °C}$) for heating the cartridges – it takes the smelter 10 min to warm up!

1. Cut contact tubing

- Measure off required length of contact tubing (see instruction card 09/99)
- Place into double cutting device; point of origin: middle blade
- Make sure that the strands are central to the V-cutouts in the blades and only then cut.

Caution: Do not damage the strands!

2. Soldering

- Strip the insulation of the contact tubing
 - Caution:** Do not damage the strands when doing so! If as much as one strand gets cut, the element may not be used further (reject).
 - Insert PCB into contact tubing up to the centre of the bore holes
 - Solder strand to PCB (see diagram)
 - Solder other strand in the same way
- Use soldering tin as per DIN 8516 F-SW 32

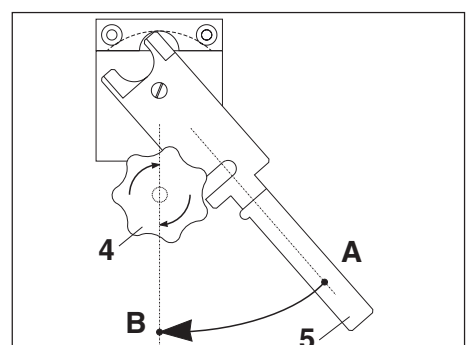
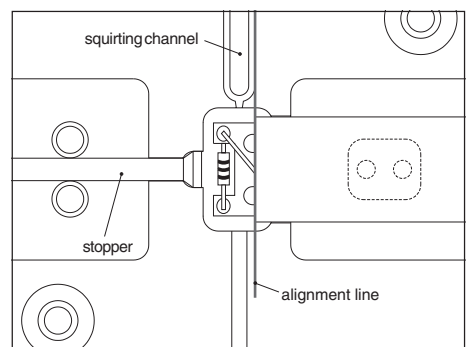
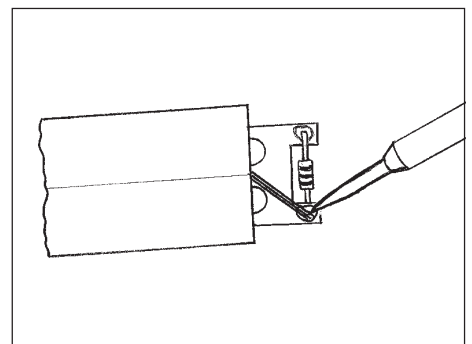
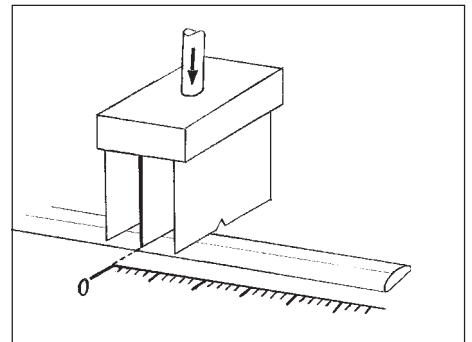
3. Insert injection moulds

Where should injection-moulds be?
Cable end: without stopper
W-/D-end: insert stopper

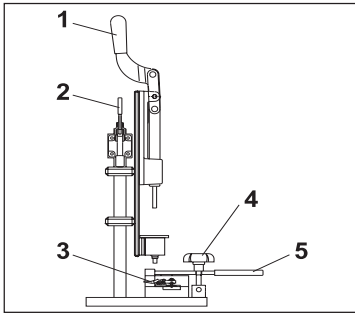
- Insert contact tubing, cambering surface facing upwards
- Position in tool: line contact tubing up to right edge of squirting channel (see diagram)
- Close the small quick-action catch device **3**

4. Close tool

- Place top part of tool in position, keeping turning lever **5** in position **A**
- Put straining screw with star grip **4** into upright position (with left hand)
- Turn turning lever **5** from position **A** to position **B** as far as straining screw stop (with right hand)
- Tighten straining screw using star grip **4**



Assembly instructions
DIY SE I TPE
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5. Insert squirting cartridge

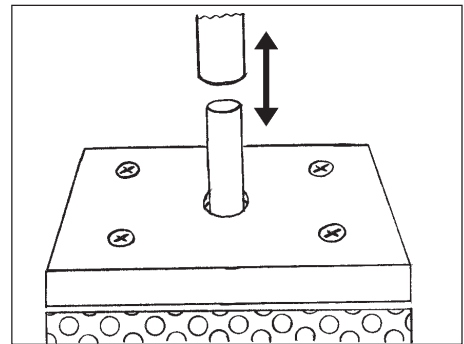


Caution: Melting period of 2 min is imperative! Melting process otherwise not complete.

DIY: A finished Safety Element SE I TPE in just 8 steps

The cartridge must disappear completely into the smelter opening.

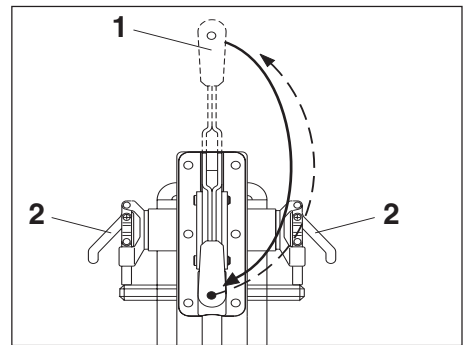
- Put in cartridge and press in gently with finger; using lever **1**, insert cartridge totally into smelter, exit lever **1** immediately
- Allow for 2 min melting period
Melting period > 5 min: squirt out material used, clean tool and insert new cartridge



6. Injection moulds

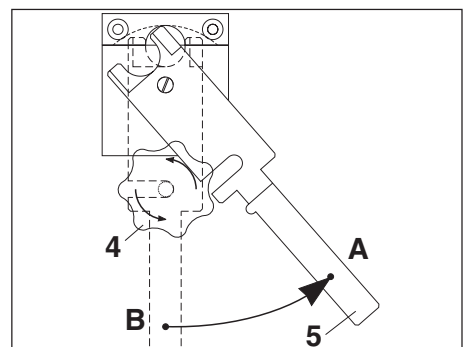
For good injection mould results, carry out the following briskly:

- Conduct the moving component downwards using quick-action catch devices **2**, until quick-action catch devices can be felt latching
- Push lever **1** downwards – in one impetus – at a constantly fast speed
- Return lever **1** to starting point



7. Remove from tool

- Conduct the moving component back up again using quick-action catch devices **2**
- Unscrew straining screw using star grip **4**
- Set turning lever from position **B** to position **A**
- Unscrew top part of tool and lift off
Tip: use lever action
- Open the small quick-action catch devices **3** and take out contact tubing



8. Retouch work and testing

- Using a side cutting tool remove protruding sprue and, if applicable, any flashes
- Clean tool completely of any remaining sprue
- Check visually for all round total injection
- Test function according to criteria in box opposite

Test for function:

- SE1 W with 1.2 kΩ and/or SE1 BK
3.9 V < U_{OK} < 4.1 V
- SE1 W with 8.2 kΩ
OK: green LED lights up
- SE1 W with 22.1 kΩ
OK: green LED lights up

Technical data SE 1 TPE

Safety Element SE 1 TPE made up with a resistor with $R = 1.2 \text{ k}\Omega$.

1 Protection class

Safety Element SE 1 TPE IP67
Testing basis: EN 60529 (DIN VDE 0470 Part1)

2 Switching operations

Safety Element SE 1 TPE $> 1 \times 10^6$
Testing basis: EN 1760-2 Test piece 1 ($\varnothing 80 \text{ mm}$), $F = 150 \text{ N}$

3 Actuation forces of the Safety Element

Testing speed:	50 mm/min	
Testing basis: EN 1760-2	Test piece 1	Test piece 2
	$\varnothing 80 \text{ mm}$	$\varnothing 20 \text{ mm}$
Ambient temperature: 23 °C	$\leq 60 \text{ N}$	$\leq 25 \text{ N}$
- 25 °C	$\leq 100 \text{ N}$	$\leq 40 \text{ N}$

4 Operating and environmental conditions

Testing basis: EN 1760-2 Test piece 1 ($\varnothing 80 \text{ mm}$), $F = 150 \text{ N}$

4.1 Electrical operating conditions

Voltage $\leq 24 \text{ V DC}$
Power $\leq 30 \text{ mA}$

4.2 Contact transition resistance $< 200 \Omega$

4.3 Permissible ambient temperature

continuous - 25 °C to + 80 °C
short-term - 40 °C to +100 °C

5 Chemical resistance

5.1 Resistant to: Customary cleaning agents, salt water and alcohol.

5.2 Not resistant to: Oil and fuel.

6 Behaviour in fire

according to DIN 75200 c. 40 mm/min
also fulfills Limit values as set out by the StVZO (Regulations Authorizing the Use of Vehicles for Road Traffic), TA 29

7 Dimensional tolerances

7.1 Length according to DIN ISO 3302 L2

7.2 Profile cross section according to DIN ISO 3302 E2

Subject to technical modifications.