ROMOLD

ROM-TRENCH

MODULAR COMBAT TRENCH SYSTEM

ROMOLD SYSTEMS

IN USE BY THE GERMAN ARMY FOR OVER 10 YEARS

ROMOLD is the European market leader in the production of plastic cable and sewage chambers. Plastic chambers are applied in infrastructure projects, in the areas of water discharge, water supply, road drainage, sewer rehabilitation, pressure drainage as well as electro- and telecommunication.

ROMOLD cable chambers have been in use by the German Army for over 10 years and are also part of an IT regulation for field camps. To date, over 3,000 chambers have been installed in field camps and other facilities.

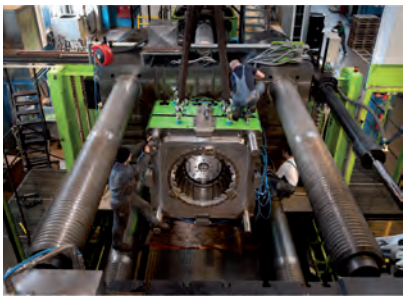
The products are characterised by their low weight, easy handling, high durability, and a lifespan of up to 100 years. Additionally, some products are delivered in modular components, which reduces the transport volume.

ROMOLD exclusively concentrates on chambers and is the only supplier specialised in the plastic chamber segment. ROMOLD has hence developed a level of in-depth expertise that is second to none.
Our products and services are innovative down to the last detail.

Many innovations, which today are state of the art, have been developed by the ROMOLD engineers and employees . The company manufactures to the highest quality standards; quality assurance is achieved through continuous internal and external inspection.
As a matter of course, the company is also certified according to EN ISO 9001, which gives you the assurance that you always get the best.

The environmentally friendly, 100% recyclable materials fulfil all common standards and are optimally designed for the user. Polyethylene and polypropylene permanently withstand chemical attacks, mechanical stress and UV- and weather influences.

Extrusion machine



Injection moulding machine

Rotomoulding machine

ROMOLD warehouse and Production I

ROMOLD headquarters

ROMOLD PRODUCTS IN MILITARY USE

IMAGES FROM AROUND THE WORLD

In Europe's largest training town of Schnöggersburg alone, more than 600 ROM-Box cable manholes have been installed. They are in use in many other military installations around the globe.

ROM-TRENCH COMBAT TRENCH SYSTEM

A TURNING POINT IN FIELD FORTIFICATION

The ROM-Trench system produced by ROMOLD GmbH marks a turning point in modern trench construction: an industrial product for cable chambers was quickly transformed into a modular, tool-free combat trench designed specifically for rapid deployment by infantry.

Development of the system began at the end of 2022, and the first prototype was tested at the Lehnin military training area in 2023. The tests showed that a squad without engineering expertise can construct combat trenches much more quickly – around 4-6 metres of trench per hour compared to around 1 metre with traditional wooden construction methods.

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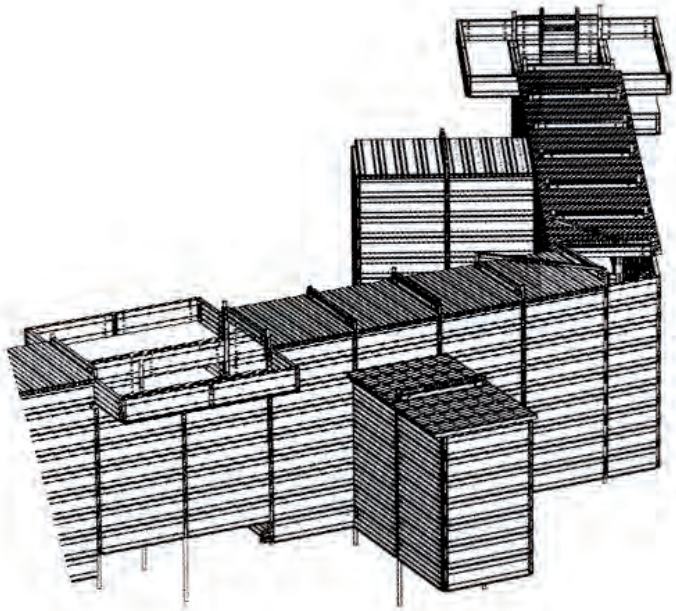


Technically, the ROM-Trench is based on standardised plastic profiles and metal plug-in frames: the modules are lightweight, reusable and can be connected in any way to build trenches, covered fighting positions and shelters. The trenches can be extended as required. The fire load and IR signature of the plastic profiles are comparable to those at wooden structures.

The system in Ingolstadt

First test construction in Bad Reichenhall

On the Lehnin Training Area

Training with the prototype in Lehnin

Construction in Ingolstadt

ROM-TRENCH COMBAT TRENCH SYSTEM

A TURNING POINT IN FIELD FORTIFICATION

The practical benefits quickly became evident during training and exercises. At the Engineer School in Ingolstadt, the system was installed in the school's model trench complex, which means that the ROM-Trench will now be used in the construction of field fortifications (entrenchments) alongside traditional wooden and metal solutions.

International testing has confirmed the system's operational readiness. During the Austrian exercise WALDVIERTEL 25, the Austrian Armed Forces rapidly installed a ROM-Trench, a complete fighting position, under exercise conditions and subsequently dismantled it again — a clear proof that the system is suitable not only for training but also for real-world operations.

In autumn 2025, a complete ROM-Trench system was purchased and installed for the WIWeB's 'InnoLab System Soldat in Erding. In the future, various mission scenarios will be tested here in order to further develop the 'Soldier' System.

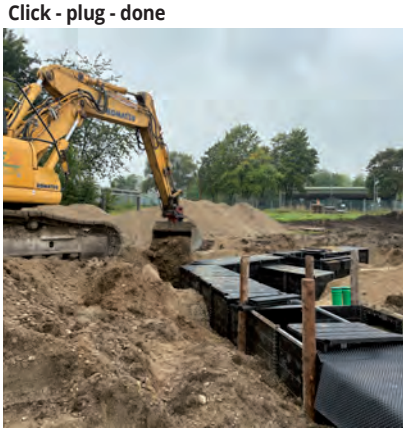
All installations to date have shown that the ROM-Trench reduces set-up time, logistics costs and noise, and increases flexibility in dynamic combat situations.

The ROM-Trench not only complements traditional construction methods using wood, concrete, and metal, but also introduces entirely new possibilities - from training operations to dynamic combat scenarios. Its reusability and flexibility make the ROM-Trench a forward-looking solution that streamlines and accelerates the construction of field fortifications. After a short period of familiarization, combat troops can install it independently, without the need for specialist support.

This clearly demonstrates that the ROM -Trench is an innovative contribution to the operational readiness of modern armed forces. It combines protection and mobility and shows that technological advances are inducing a real turning point in the construction of field fortifications.

Lightweight components

Click - plug - done



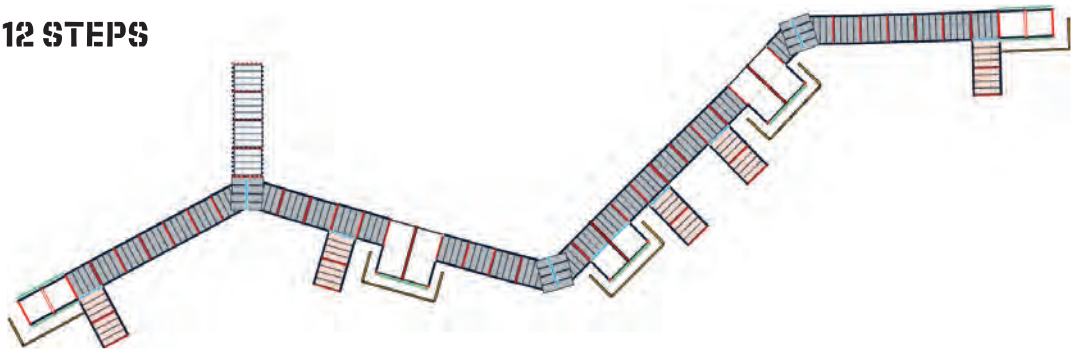
6 times faster than a wooden trench

Training exercise in Austria

Trench system in Erding

ROM-TRENCH INSTALLATION

SUCCESS IN 12 STEPS



1. Excavate the trench

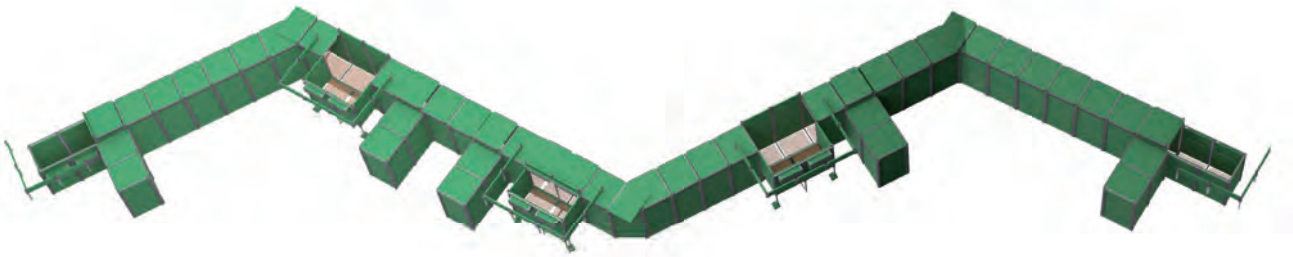
2. Level the base

3. Set the frame

4. Stabilise with initial wall profiles and floor grids

5. Build the walls

6. Build fighting positions and shelters



Plan of a trench system for a group

7. Backfilling with excavated material

8. Backfilling the floor grids

9. Laying the covers

10. Extending the fighting positions

11. Covering the covers with excavated material

12. Interior work, connecting to wood if necessary

TECHNICAL DATA

OVERVIEW

The ROM-Trench is a modular combat and communication trench system made of plastic and metal elements, which was developed to construct field fortifications quickly and in a robust and reusable manner.

- The trench width is 90 cm and the trench height is 180 cm (internal dimensions).
- The wall and roof profiles can be quickly and easily installed without tools according to the Lego principle.
- The interior wall is consistently flat and smooth. It has no protruding edges that may present a risk of injury – in contrast to wood or corrugated iron constructions.
- A completed trench allows a cover up to 50 cm of gravel and soil. It can also be easily expanded at any point, even retroactively.
- The trench system can be dismantled and reused.
- The system consists of only a few standard components: a wall profile, two roof profiles, a stabilisation frame (comprising two tubes with two insertable square frames), and a floor grid.
- Two additional metal bars are required to assemble a fighting position.
- Individual components weigh between 2 kg and 11 kg and are hence portable.

Lightweight components

TECHNICAL DATA

OVERVIEW

Assembly & handling:

- Click & plug principle: Tool-free assembling of the components; the panels are pressed into place from the outside between the metal frames.
- If the trench is too narrow for istalling the wall profiles from the outside, the supplied hand tool can be used to press the panels into position from the inside.
- Flexibility and adaptability: The panels can be sawn like wood, allowing for customised profile dimensions when required.

Can be installed even in confined spaces

Adaptable for individual solutions

Material properties:

- Fire protection class B2 according to DIN 4102, identical to wood; can be increased to fire protection class B1 by adding additives (is under development).
- IR resistance: no reflection, tested with LUCIE night vision device.
- UV resistance: profiles contain UV stabilizers.
- Chemicals: product is resistant to common acids, alkalis, and chemicals.
- Temperature range: usable from -20 °C to +40 °C ground temperature.
- Recyclable: profiles are fully recyclable.

The ROM-Trench can be combined with the proven timber construction method. The connection of trenches, roofing and group shelters is simple and has been tried and tested many times.

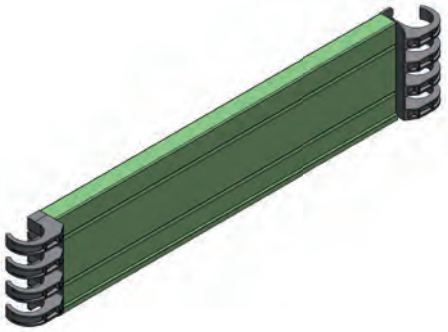
Combination with wood

THE INDIVIDUAL COMPONENTS IN DETAIL

COMPONENTS

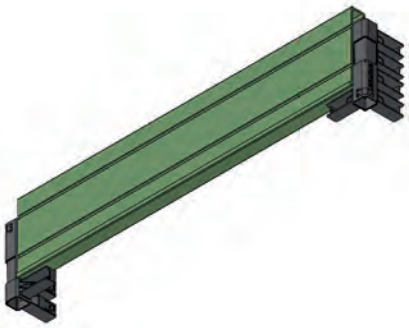
1. Wall profiles

- Component consists of 1 profile, 2 clamps, 8 pins
- Fully assembled ex works
- Standard length: 96 cm
- Height: 20 cm
- Weight: 3.7 kg



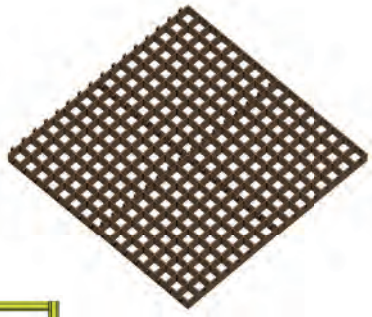
2. Roof profile

- Component consists of 1 profile, 2 corner elements
- Standard length: 99 cm and 109 cm
- Width: 10 cm and 20 cm
- Weight: 1.8 – 3.6 kg



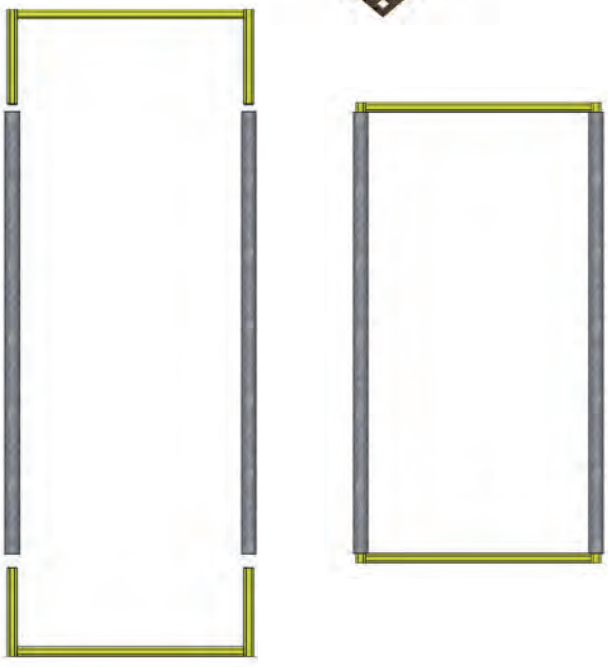
3. Floor grid

- Size: 90 x 90 cm
- Standard paddock panel
- Weight: 3.8 kg



4. Stabilisation frame

- Component consists of 2 tubes and 2 square U-frames
- Material: galvanised steel
- Weight of individual components: 7 - 12 kg

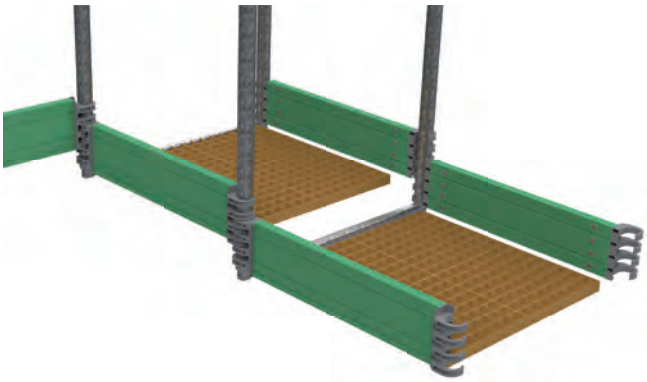


THE INDIVIDUAL COMPONENTS IN DETAIL

COMPONENTS

Special features

- The profiles are designed so that they cannot be mounted upside down.
- Damaged profiles can be easily replaced.
- The stabilisation frames are designed to transfer the load of the horizontal earth pressure. As standard, one frame is provided every 96 cm.
- Uneven ground can be compensated in 5 cm steps. This allows for height adjustment and steps in the trench.
- Any angle between 60° and 270° can be constructed in the trench system.
- If the trench is too narrow, the special tool 'Klamminator' can be used to install any wall element from inside the trench.



OVERVIEW OF THE ASSEMBLIES

MODULAR VERSATILITY

The number of components is limited — but the variety of possible configurations is extensive!

Combat and communication trenches

With the wall and roof profile, stabilisation frame and floor grid components, trenches of any length and configuration can be built independently by a squad.

Trench element middle & end

Trench element 0.96 m, consisting of:
a) Polypropylene wall and cover profiles with fastening clips at each end
b) Galvanised steel stabilisation frames every 96 cm
c) Base display with plastic floor grids.
Trench height: 180 cm, inner width of trench: 90 cm.

Trench element angles 90°, 120° and variable

Components and dimensions analogous to the middle trench element, but with more wall profiles and pipes depending on the angle.
The angle variants are additionally equipped with flexible telescopic bars.

Fighting positions

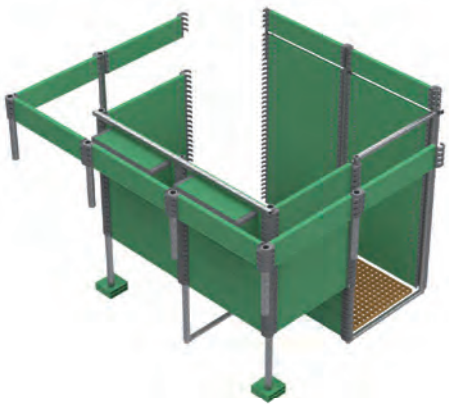
Each fighting position is equipped with two storage compartments for ammunition and equipment and has a surrounding arm and rifle rest. The combat position in the fighting position is raised by 60 cm and set at a right angle to the trench.

Fighting position open, covered trench

Fighting position with 2 trench elements in the middle, trench covered, depth, width and height each 1.80 m, with arm rest (20 cm high and 50 cm deep) and 2 storage compartments, consisting of:
a) Polypropylene wall and cover profiles in various lengths with fastening clips at each end
b) Stabilisation frame made of galvanised steel
c) Base display with plastic floor grids.

OVERVIEW OF THE ASSEMBLIES

MODULAR VERSATILITY



Fighting positions

Open fighting position, open trench

Components and dimensions are the same as for the open fighting position, covered trench, but not covered in the trench area.

Fighting position end, open

Components and dimensions are the same as for the open fighting position, but with a trench element in the middle and a trench element at the end.
This fighting position is only placed at the end of a trench system.
The fighting position is raised by one step.

Other assemblies

Shelter with trench element

The shelter should be mounted to each fighting position at a 90° angle.
It serves as a protection or storage compartment for the personal equipment of two soldiers or as a place for one soldier to rest.
Shelter, covered, LxWxH 1.80 x 0.90 x 1.60 m, consisting of:
a) Polypropylene wall and cover profiles in various lengths with fastening clips at each end
b) Stabilisation frame made of galvanised steel every 96 cm
c) Base display with plastic floor grids
d) A modified trench element in the middle.

Basis fighting position „stand alone“

The 2-men fighting position is a self-contained, self-sufficient fighting position. It can be used without connection to a trench system. But it can be quickly connected to a system with additional ‘middle trench elements’. It can serve as a remote alarm post for two soldiers and offers protection in a shelter.
It is covered, has a T-shape with a depth and total width of 2.90 m,
trench width 0.90 m, height 1.40 m (shelter: 1.60 m) and consists of:
a) Polypropylene wall and cover profiles in various lengths with fastening clips at each end
b) Galvanised steel stabilisation frames every 96 cm
c) Base display with plastic floor grids
d) A modified trench element middle.

WHY CHOOSE THE ROMOLD SYSTEM

THE ADVANTAGES OF PLASTIC OVER WOOD IN DIRECT COMPARISON

1. Faster construction time

- Material is delivered ready to build.
  Wood must be cut, transported, and processed.
- Construction time per running metre of ROM-Trench: 1 man-hour.
  Comparable construction time for wood: 6 man-hours
  (Trench construction in 2022: 905 Engineer Battalion with
  232 Mountain Infantry Battalion, SILBERG training area).
- 3 examples:
  Engineer School Ingolstadt: 23 m – 4 men – 6 hours,
  WALDVIERTEL 25 exercise: 18 m – 4 men – 3 hours,
  WiWeb Erding: 45 m – 3 men – 16 hours.

2. Lego principle (build without prior knowledge)

- The kit can be used flexibly in length, height, and angles.
- Simple “click & plug“ principle, no screw or nail connections.
- No tools required. All installations shown were built by soldiers without any prior knowledge – wood can only be installed by engineers with specialist knowledge and specific equipment.

3. Higher safety

- The plastic hollow chamber profile significantly dampens detonation blast waves.
- The smooth interior wall prevents injuries to soldiers and wear on clothing and equipment.
- Floor grids prevent soldiers from slipping.
- The wall profiles can also be made lighter in colour, thus increasing safety in dark areas (is under development).
- The combination of floor grids with an optional drainage system from ROMOLD keeps the trench permanently dry.

4. Expandable - dismantlable - reusable

- The individual elements can be quickly dismantled and reused.
- Plastic does not rot and can be reused even after years.
- Components can be easily replaced if damaged.
- The recyclability also corresponds to the environmental and sustainability principles of each NATO-Army.

WHY CHOOSE THE ROMOLD SYSTEM

THE ADVANTAGES OF PLASTIC OVER WOOD IN DIRECT COMPARISON

5. Flexible, simple, and quickly expandable

- Subsequent enlargement or modification of the trench system can be done at any point at any time by the infantry itself.
- The plastic system can be easily combined with wood or other materials.

6. Lower weight

- The weight of 1 running metre of ROM-Trench is 122 kg. According to AR 'Field Fortifications', Annex 20.1, the comparable weight in wood is 165 kg (for round timber: 330 kg).
  The individual parts of the ROM-Trench weight 2-12 kg.

7. Benefits for exercises

- Troops can practice building trench systems for the first time.
- The system is durable and usable, with no follow-up costs.
- Just by removing the covers, attack and defence scenarios can be varied multiply.

8. Benefits in missions/on operations

- The plastic system is built faster, and the troops are protected more quickly.
- Inconspicuous construction according to the tunnel construction principle => visual protection against drone and UAV detection.
- No visible heavy woodworking machines are required.
- No noise during construction => no acoustic reconnaissance.
- The plastic system has a lower material volume => less transport capacity than wood.

OVERALL ADVANTAGES:

=> Relief of the strain on the engineer troops
=> Increased independence of the infantry
=> ***Fast + inconspicuous + quiet = maximum protection against drones***

PRICE LIST

FOR MODULES AND ACCESSORIES

AS OF: 12/2025

Trench elements

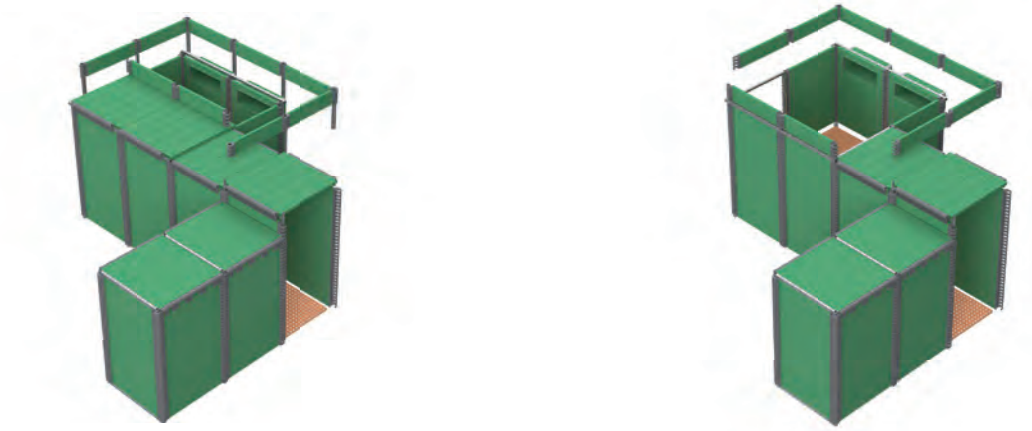
Cost per running metre (combat or connecting trench, 100% covered): **€ 500 - 1.200**

- *Middle*
- *End*
- *Angle (90° / 120° / variable)*

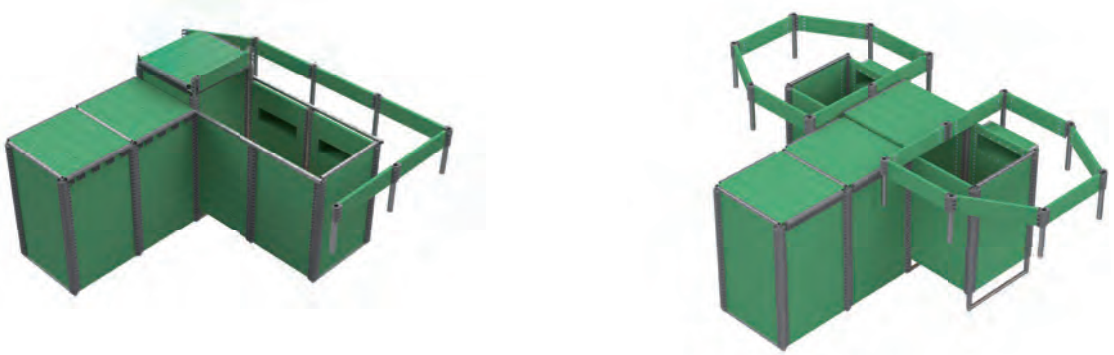
Fighting positions

Cost per fighting position (depending on design, with shelter and connection): **€ 3.800 - 5.000**

- *open in covered trench*
- *open in open trench*



- *open end*
- *Basis fighting position „stand alone“*

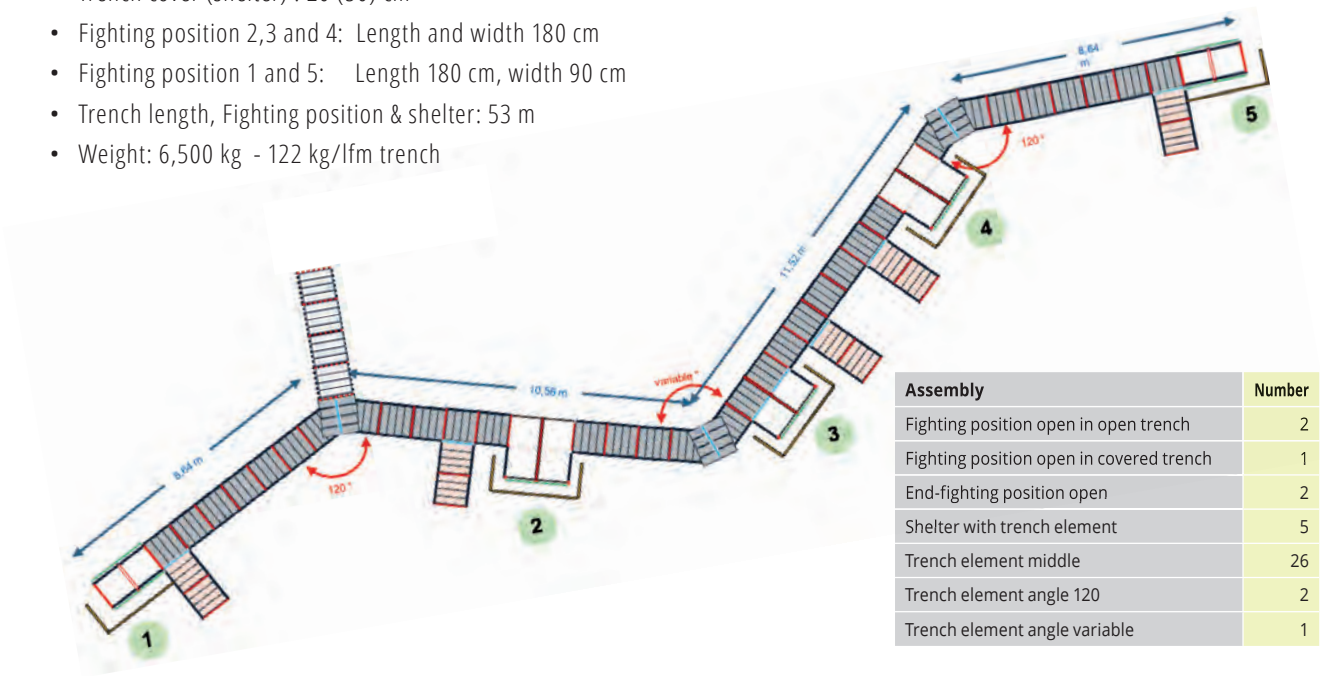


PRICE LIST

FOR MODULES AND ACCESSORIES

ROM-Trench group „ Standard“ (10 soldiers) **€ 39.000 - 41.000**

- Trench height (width): 180 (90) cm
- Trench cover (shelter) : 20 (50) cm
- Fighting position 2,3 and 4: Length and width 180 cm
- Fighting position 1 and 5: Length 180 cm, width 90 cm
- Trench length, Fighting position & shelter: 53 m
- Weight: 6,500 kg - 122 kg/lfm trench



Assembly	Number
Fighting position open in open trench	2
Fighting position open in covered trench	1
End-fighting position open	2
Shelter with trench element	5
Trench element middle	26
Trench element angle 120	2
Trench element angle variable	1

The trench system can be delivered as a complete kit with a length of 40 metres or as individual modules according to the customer‘s order.

The German Army is facing a variety of challenges at the “Zeitenwende“ (historical turning point). This includes modernising trench systems that have so far been made from wood or corrugated iron and with a lot of effort.
The innovative and pre-configured ROM-Trench system made of plastic presented here is superior to traditional systems in many ways. Its durability and reusability offer significant savings over its lifetime compared to conventional systems made of wood or corrugated iron.

Efficiency and cost-effectiveness arguments for the plastic combat trench system can be found on the next page.

EFFICIENCY AND COST-EFFECTIVENESS

MORE ECONOMICAL IN TOTAL

1. Cost savings and efficiency (construction costs)

- **Faster construction:**
  The pre-configuration and easy handling of the plastic system significantly decreases the construction time and the personnel costs.
- **No training required:**
  No special training is required for system installation, so the training costs are reduced.
- **Lower volume:**
  The compact design of the plastic system significantly reduces handling and transport costs.
- **No heavy equipment:**
  Installation does not require expensive tools and heavy equipment, which further reduces investment costs.
- **Subsequent expansion:**
  The system can be easily expanded or modified by the user with minimal effort, saving additional personnel costs.

2. Follow-up costs in exercise

- **Smooth plastic wall:**
  The smooth surface reduces the risk of injury to soldiers and minimises damage to equipment.
- **Reusability:**
  The components can be reused multiple times, reducing the need for new material.
- **Longer lifespan:**
  The high durability of plastic leads to a longer service life, avoiding follow-up costs.
- **Resistance:**
  The system is robust and low-maintenance, minimizing maintenance costs.
- **Recyclable:**
  At the end of its service life, the material can be recycled, avoiding scrapping costs.

3. Follow-up costs on operations

- **Better drone protection:**
  Fast, silent and unnoticeable installation protects human lives.
- **Camouflaged installation:**
  The inconspicuous integration into the environment reduces the risk of destruction during the construction time, thus reducing risk costs.
- **Faster installation:**
  Quick and discreet installation saves lives and reduces associated costs.

Conclusion

The new plastic trench system represents a trendsetting solution for each NATO Army. It offers significant cost savings, increased efficiency and safety, and it is also environmentally friendly and sustainable.