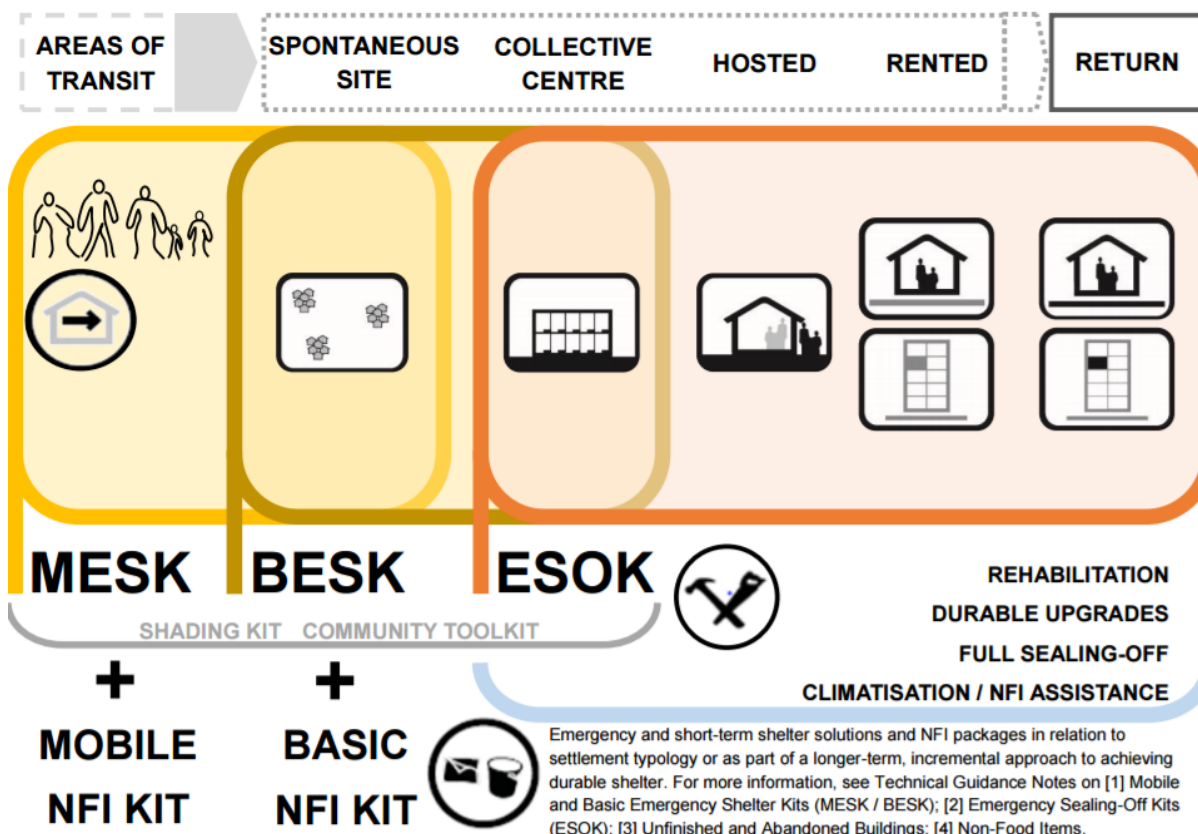


## ESOK Technical Guidance

### INTRODUCTION

When a disaster involving mass displacement of conflict-affected populations occurs, access to adequate shelter can be a critical determinant for survival. Shelter is essential to provide security and personal safety, protection from the climate and enhanced resistance to disease and ill health. With a rapid displacement of large numbers of people, it is important to provide shelter solutions as quickly as possible. Rather than waiting for the provision of tents or other such temporary shelter solutions, relief items such as plastic sheeting, rope, basic tools and fixings can provide the basis for a simple shelter or can be used to repair or upgrade damaged shelters. Basic emergency shelter could be provided in out-of-camp contexts through the provision of the **Basic Emergency Shelter Kit (BESK)**, which is designed to provide the materials and tools to construct a simple shelter for displaced families. By removing one component (the poles/sawn timber) the kit can be made lighter and more portable - a **Mobile Emergency Shelter Kit (MESK)**. The BESK and MESK is outlined in separate Guidance.<sup>1</sup>

In other situations, **basic materials and tools are needed to improve existing shelters or to enable additional spaces to be converted into habitable shelter for a short duration during the emergency phase of a response.** "Sealing off" unfinished and abandoned buildings or other structures allows shelters to be made *adequate*<sup>2</sup>, providing sufficient protection from the elements, security and personal safety, as well as privacy and dignity. It provides a greater range of suitable shelter and settlement options that can be mobilised to assist displaced families for a short duration during mass displacement.



## ESOK Technical Guidance

The **Emergency Sealing-Off Kit (ESOK)** is designed to provide families with an essential package of items to seal emergency and short term shelter solutions, such as sections of an unfinished or abandoned building or other types of collective centre outside of camp settings. The **ESOK** could complement the distribution of an Emergency Shelter Kit, either Mobile (**MESK**) or Basic (**BESK**). Alternatively, families may just receive an ESOK. Assistance may also be supplemented through the distribution of Mobile or Basic NFI kits.

The items included in the ESOK are not intended to provide the same level of assistance as a full-scale project for helping families achieve longer-term durable shelter solutions, which may also comprise similar sealing off activities<sup>3</sup>. Emergency Sealing-Off Kits are aimed to assist in **emergency and short-term shelter solutions or as part of a longer incremental approach** where more durable interventions will be given over time.

Due to the comparatively low cost of this approach compared to other shelter interventions it can be viewed as a **cost-effective way to rapidly reach large numbers of affected families with lifesaving assistance, in a wide variety of different locations and contexts**, in order to provide at the very least minimum standards of shelter.

The ESOK should be designed to improve sub-standard shelters for the most vulnerable families by achieving the following:

### PROTECTION FROM CLIMATE

- Close openings (doors, windows) in a building envelope if missing, providing protection from dust, rain, wind and cold.
- Close gaps in doors and window frames, preventing draughts and leaks.
- Seal off small holes / cracks in shelters, reducing draughts, leaks and insects or vermin.
- Enhance the thermal insulation of doors, windows and floors.
- Reduce condensation on cold walls and ceilings.

### PRIVACY AND DIGNITY

- Construct temporary partitions within shelters, for example where multiple families may be living together, separating male and female areas in communal facilities, or separating family living spaces from shared / communal spaces.
- Fix broken (or install) locks on doors and windows.
- Seal bathroom fixtures and fittings using silicone sealant to ensure effective, safe use and proper disposal of wastewater.
- Allow segregation of areas

### HEALTH, SAFETY AND SECURITY

- Construct temporary walls to the exterior of shelters or fences to reduce likelihood of intruders.
- Ensure the shelter is sealed, reducing risk of theft, vandalism or damage.
- Erect handrails, barriers and balustrades around the building perimeter and in internal and communal areas (e.g. stairs) to reduce risk of falling, tripping or other injury.
- Cordon off unsafe or hazardous areas, such as piles of debris or damaged structural parts.

### IMPROVED SETTLEMENTS

- Erect fencing, barriers or screening to prevent falling, tripping or other injury from unsafe areas.
- Construct privacy screening around WASH facilities.
- Improve communal facilities and resources, for example through installing covers over shared spaces or water tanks.



Photos: Courtesy of UNHCR



## ESOK Technical Guidance

**Tailoring ESOK contents to needs and context** - The prioritisation of items and their selection for inclusion in the ESOK will depend largely on specific needs assessments relevant to the context. It is recommended to conduct specific assessments at target locations (e.g. Collective Centre or Building) in order to tailor the kit to the needs and context, thus eliminating the procurement of items that would not usefully meet identified needs.

**Distribution of ESOK** - Shelter implementing agencies should consider the range of methods available to distribute ESOKs (such as house-to-house/family distribution, or distribution from a central location). A number of considerations will define the most appropriate means, including security, geographic spread, local community (including host) context, timeframes and deadlines, operational capacity, availability of local or community-based organisations to provide support, expectations from communities and local authorities, and norms of practice agreed with other cluster partners.

**Training, awareness, orientation and guidance** - It is crucial to provide families with clear, basic training on how to use the materials and tools included in the kits, to enable them to carry out repairs and basic upgrades independently without causing themselves or others harm. Awareness should also be raised amongst beneficiary families of key safety measures and good practices, and guidance should be given on repair, operation and maintenance of shelters and settlements. Families unable to carry out the repairs and basic upgrades themselves (for example, elderly, female-headed or less-able-bodied households) should be identified and provided with additional support, best achieved by home visits to assist.

**Security** - Some of the items within these kits may need to be reviewed with regard to safety, security and mitigation of potential conflict or other risks and threats within displaced families and communities. Always consider the distribution of items carefully, and consult with communities and authorities before planning and undertaking distributions.

**Suggested Packages** - The ESOK contents presented below are generic in details and specifications. As the Kit(s) are intended to meet the emergency, lifesaving sheltering, privacy and dignity needs of families and communities, their usage will vary depending on each situation and context. The Kit Contents are therefore intended as general guidance and recommendations, based on international standards and experience. However, technical advice should be sought from Shelter Cluster Iraq when there is a requirement to adapt, add or change the contents.

**Cash Based or Local Market Responses** - Unconditional or conditional cash grants maybe considered as an alternative for meeting emergency shelter needs and indicative costs envelopes are provided. Market surveys should be undertaken before considering cash responses. All items detailed could be replaced with similar items or more suitable emergency shelter items based on specific needs, locations, market availability and possible shelter solutions.

**Protection** - Displacement occurs on a variety of scales and to a range of different sites, establishing different settlement and shelter typologies for varying periods of time. Provision of shelter assistance should be coordinated with and accompanied by parallel assistance in other sectors, such as WASH, in order to ensure that at settlement-level all immediate needs are met and no gaps occur. Special consideration should be given to potential Housing, Land and Property (HLP) issues prior to emergency shelter response, and other key protection concerns (such as the potential for ERW contamination, sufficient access to services and information etc).

## ESOK Suggested Content

It is recommended that kits include the following general categories of item:

### 1. CONSTRUCTION MATERIALS

- Tarpaulin and plastic sheeting
- Framing materials – square-cut timber
- Other framing material
- Exterior grade plywood sheeting
- Fixings and rope
- Sealants and adhesives
- Metal straps and angles
- Insulation materials

### 2. TOOLS

### 3. PERSONAL AND SITE SAFETY EQUIPMENT

## Key Training and Awareness Messages

As ESOK kits are intended to be distributed directly to families as part of an emergency shelter response allowing the rapid sealing-off of shelters and buildings, it is crucial that sufficient guidance is provided to beneficiaries and communities in order to ensure that the kits are deployed effectively to meet their intended purpose, without causing harm or injury to oneself or others. ESOK assistance should not be provided without the following knowledge support to affected / beneficiary communities:






- Training in safe use of tools, site and personal safety equipment.
- Training on good practices of construction using the materials provided in the kit.
- Providing guidance on a range of construction options available within acceptable scope.<sup>5</sup>
- Raising awareness of potential risks, hazards and dangers within the shelter or settlement, and means of their mitigation.
- Fire prevention and response.










## ESOK Technical Guidance

### Suggested ESOK Content and Specifications










*Note: All values in this document are stated in United States Dollars (USD / \$)*

ESOK = \$250—\$300 per kit


EMERGENCY SEALING OFF KIT (ESOK) – CONSTRUCTION MATERIALS					
#	Item and Description	Unit	Unit cost /\$	Use	IMAGE
<b>TARPAULINS AND PLASTIC SHEETING</b>					
1	Tarpaulin - Shelter-grade, 4m x 5m	piece	15	Roof/wall covering for protection from heat, cold and wind. If coloured can also provide minimal forms of privacy. Refer to Shelter/NFI Cluster Guidelines for full specifications.	
2	Clear Plastic Sheeting - 190 GSM (gram per square meters)	m <sup>2</sup>	1.5 / m <sup>2</sup>	Clear plastic sheet for sealing windows and doors as well as general uses. Market price is likely to be in kg rather than m <sup>2</sup> .	
<b>FRAMING MATERIALS - SQUARE CUT TIMBER</b>					
3	Square Cut Timber - 2cm x 6cm x 3m	piece	8	For building doors and windows.	
4	Square Cut Timber - 2.5cm x 10cm x 3m	piece	3	For securing plastic sheeting and general sealing off.	
5	Square Cut Timber - 4cm x 9cm x 2.50m	piece	6	For construction of temporary wall framing (internal or external)	
<b>OTHER FRAMING MATERIAL</b>					
6	Round Local Softwood - diam 4cm, length 4m	piece	4	Round timber poles for construction of temporary wall framing (internal or external)	
7	Wall Frame Rail - U Shaped; Galvanized Steel; 3 meters long, 45x18 mm, 0.6 mm thickness	piece	5	To set up frames for plywood / plastic sheeting walls (separation/partitioning)	


EMERGENCY SEALING OFF KIT (ESOK) – CONSTRUCTION MATERIALS					
#	Item and Description	Unit	Unit cost /\$	Use	IMAGE
<b>EXTERIOR GRADE PLYWOOD SHEETING</b>					
8	Exterior Grade Plywood - 4mm thick x 1200mm x 2400mm	sheet	10	Panels for partitioning; providing cover for openings in exterior wall	
9	Exterior Grade Plywood - 12mm thick x 1200mm x 2400mm	sheet	18	Panels for partitioning; providing cover for openings in exterior wall	
10	Exterior Grade Plywood - 18mm thick x 1200mm x 2400mm	sheet	25	Panels for partitioning; providing cover for openings in exterior wall	
<b>FIXINGS AND ROPE</b>					
11	50mm Common Nail - 6 D. 3 mm x 50mm, High quality low carbon steel Q195 or Q215 or Q235	kg	2	Fixing timber together; fixing sheet materials to frames.	
12	75mm Common Nail - 8 D. 3 mm x 75mm, High quality low carbon steel Q195 or Q215 or Q235	kg	2	Fixing timber together; fixing sheet materials to frames.	
13	100mm Common Nail - 10 D Common Nail 3.8 mm x 100mm, High quality low carbon steel Q195 or Q215 or Q235	kg	2	Fixing timber together; fixing sheet materials to frames.	
14	65mm Galvanized Steel Common Nail - 3.4 mm x 65mm, High quality low carbon steel Q195 or Q215 or Q235	kg	4	Fixing timber together; fixing sheet materials to frames. Resistance to corrosion so useful for external purposes.	
15	Concrete Nails - 2.8 mm x 40 mm, spiral splined, hardened steel, electrogalvanized	kg	15	For fixing timber and sheet materials to concrete and other hard materials.	
16	Concrete Nails - 4.00 mm x 80mm, spiral splined, hardened steel, electrogalvanized	kg	15	For fixing timber and sheet materials to concrete and other hard materials.	
17	Nails with Washer Head / Roofing nail with umbrella head - Electrogalvanized / twist shank with washer. Size: 2.70mm x 70mm	kg	3.2	For fixing plastic sheeting/tarpaulins (washer prevents tearing)	
18	Screws for Wood - Gauge 4 x 20 mm	kg	6	For securely fixing framing and metal straps, angles and hinges together.	
19	Galvanized Washer - 2cm (adapted to the screws)	kg	5	To secure nail and screw fixings more securely to sheeting and framing materials	
20	Duct Tape – Extra Heavy Duty, 50mm x 25m	roll	0.75	For taping plastic sheeting together and other simple fixing of materials together	
21	10m Rope – Polypropylene	length	4	General purpose rope	


## ESOK Technical Guidance

EMERGENCY SEALING OFF KIT (ESOK) – CONSTRUCTION MATERIALS					
#	Item and Description	Unit	Unit cost /\$	Use	IMAGE
<b>SEALANTS AND ADHESIVES</b>					
22	Silicone Caulking - 100%, clear, 10 oz tube	tube	5	Sealing small gaps and cracks	
23	Expanding Spray Foam - Compressed can with nozzle, 2-3x expansion, 24 hours or less cure time, polyurethane-based insulating foam sealant. 750ml can.	can	6	Sealing large gaps	
24	Construction Adhesive	tube	10	Securing timber to concrete block, door construction, etc	
<b>METAL STRAPS AND ANGLES</b>					
25	L-Shaped Galvanised Steel Angle - 42x42x40mm, Thickness 2 mm	piece	0.2	To fix together timber to make secure frames	
26	Flat L-Corner – Galvanized Steel, 50mm x 50mm / 5cm x 10cm Metal Plates With Screws	piece	0.5	For door and window frame construction	
27	Metal Handle For Door – Zinc or Aluminium, with screws (for wood) 10 to 15 cm length	piece	12	For door installation	
28	Hinges With Screws	piece	1.5	For door installation	
29	Latch - Steel Galvanised - 6mm diam and 5-10 cm long	piece	2	For securing and locking doors	
30	Open Shackle Padlock – 60 mm, with keys	piece	3	For locking doors and windows	

## ESOK Technical Guidance

EMERGENCY SEALING OFF KIT (ESOK) – CONSTRUCTION MATERIALS					
#	Item and Description	Unit	Unit cost /\$	Use	IMAGE
<b>INSULATION MATERIALS</b>					
31	Mat - polypropylene reed-woven mat, 3m x 4m	piece	14	Providing a protective covering to flooring	
32	Carpet - thickness 1-1.5cm, (4mX4m); preferably dark colour	m <sup>2</sup>	16	Providing an insulating layer to flooring	

ESOK - PERSONAL AND SITE SAFETY EQUIPMENT					
#	Item and Description	Unit	Unit cost /\$	Suggested application for Emergency Sealing-Off	IMAGE
<i>QUANTITY AND TYPE OF EQUIPMENT TO BE BASED ON CONTEXT AND AVAILABILITY</i>					
1	Safety Work Gloves - medium duty work gloves, leather/fabric mix	piece	3	Protecting hands during labour	
2	Safety Work Glasses - clear polycarbonate Class 1 safety glasses	piece	3	Protecting eyes during labour	
3	Polypropylene Rope - diameter: 8 mm, length: 200m; in a roll, preferred colour: black / dark green. Woven with 3 strands, with the possibility of being unravelled.	piece	1	For securing around the perimeter of buildings as well as to secure off voids and holes to prevent falling.	
4	Webbing - polyester flat belt sling, 6cm x 30m	piece	1	For securing around the perimeter of buildings as well as to secure off voids and holes to prevent falling.	
5	Braided Steel Cable – 12 Gauge, 30 meter roll	piece	1	For securing around the perimeter of buildings as well as to secure off voids and holes to stop people falling.	
6	Smoke detector - battery operated; 2 year warranty.	piece	20	To install in sealed off areas to assist with fire protection.	

ESOK - TOOLS					
#	Item and Description	Unit	Unit cost /\$	Suggested application for Emergency Sealing-Off	IMAGE
<i>QUANTITY AND TYPE OF TOOLS TO BE BASED ON CONTEXT AND AVAILABILITY</i>					
1	Handsaw - All-Purpose, total length 750mm, for wood, good quality, teeth from tempered and hardened steel. Unbreakable handle. Saw blade	piece	6	For general cutting of square cut timber, plywood sheeting and soft plastics.	
2	Tape Measure – 5 metre steel	piece	5	For accuracy of measuring during construction	
3	Utility Knife	piece	2	For general uses including cutting plastic sheeting,	
4	Pliers - steel bull nose pliers with cable cutter,	piece	3	For cutting and securing metal wires and cables.	
5	Shears - 9 inch straight pattern tinner's snip	piece	5	For cutting metal wire, cables and sheeting.	
6	Caulk Gun - 10 oz metal ratcheting caulk gun	piece	3	10 oz metal ratcheting caulk gun	
7	Screwdriver – Flat Head	piece	2	For 4x20mm screws and general uses.	
8	Screwdriver – Cross Head	piece	2	For 4x20mm screw and general uses.	
9	Shovel - Head with sharpened tip in forged steel which is tempered and hardened. Supplied with a handle. Total length: 100 to 110 cm.	piece	8	For digging holes, levelling earth and general uses including mixing concrete.	
10	Wheelbarrow - approx. 90L dry solids, strong	piece	30	For general uses including moving materials.	
11	Claw Hammer - Weight: 0.750 kg. Wooden handle, replaceable. Head in forged steel. Good quality.	piece	4	For general carpentry uses.	
12	Small hoe - Head size is 15cm, sharpened tip in forged steel which is tempered and hardened. Supplied with a wooden handle.	piece	10	For digging holes, levelling ground and general tasks.	
13	Plastic Bucket with Handle – 5 gallon	piece	2	For general construction related activities.	
14	Water Hose - PVC Nylon Braided, 1" - 10	roll	10	For general construction related activities.	

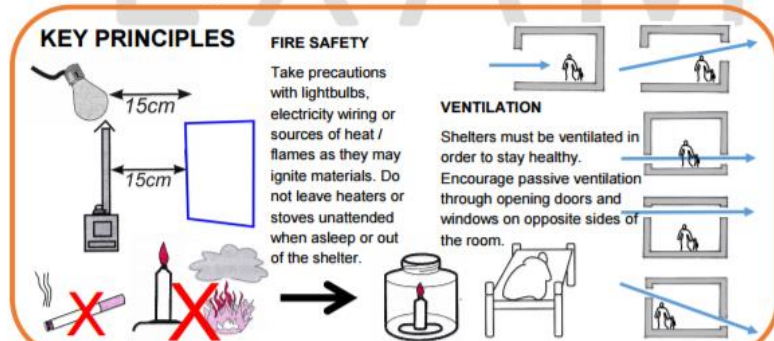
ESOK Technical Guidance



This leaflet provides guidance to help with the appropriate and safe deployment of Emergency Sealing-Off Kits (ESOK) to address critical issues in inadequate shelters



Sealing missing windows, doors and gaps / cracks in walls  
Covering roofs  
Preventing draughts and leaks  
Partitions, fences and screens  
Constructing lockable doors / windows  
Balustrades and handrails  
Ramps and stairs



**INTENDED USE OF THE KIT**

- 1) Sealing up shelters to protect from the climate and weather (heat, dust, rain, wind, snow, cold...)
- 2) Provide a means to improve privacy and dignity.
- 3) Provide a means to assure health, safety and security.

**GENERAL ADVICE**

- If you don't know or don't have the technical knowledge, ask someone who does.
- Do not encroach upon or block access to public spaces such as streets, pathways and communal water/sanitation facilities or upon the designated areas for other households.
- Measure twice, cut once.
- Use the proper tools and safety equipment to carry out the work.
- Safely remove and dispose of refuse / unused material in designated locations.



**ESOK Technical Guidance**

**Seal small gaps/cracks with silicon caulk, and large gaps with expanding foam.**

**JOINTS AND CONNECTIONS**  
Securely fix timber posts together using:

- Angled nails
- Metal angles
- Screws
- Plates
- Joints

**SHEET MATERIAL**  
Use plywood sheet or tarpaulin / plastic sheet to form walls and partitions, and seal openings (windows, doors). Use material (timber, washers, rubber, bottle caps) to prevent tearing. Fold and overlap plastic sheet.

**BRACING**  
Make timber frames stronger by bracing corners—using timber, wire or metal plates. The strongest frames use a combination of joints and bracing.

Max. 30cm