



Patent No. 2011250700

*The innovative rescue device that makes the evacuation of frail or immobile persons from life threatening situations simple and easy.*

# User's Manual



## Beginning:

The concept of the AlbacMat™ arose due to fire evacuation training that Allison Backhouse attended as part of her employment at Vision Australia – Kelaston Nursing Home Ballarat in 2002. It was mentioned here how difficult it was to remove immobilised patients quickly. With facilities becoming carpeted, the method of removing patients by sliding them on their bedspread no longer worked due to the friction of the bedspread/sheet etc on the carpet. The AlbacMat™ is an advancement of the blanket rescue method. The features of the AlbacMat™ such as the foot holder, securing and moving straps are included to minimize potential hazards to both the patient and the rescuer.

After researching various facilities and speaking to a range of hospital and evacuation professionals Allison discovered that there was no available solution on the market. With a passion for challenges, Allison decided she would create the solution.

Finding the ‘perfect’ material to perform the duties required proved to be a major stumbling block, with some burning on the carpet and others not sliding as well as was required, with others not sliding on all surfaces required. Discussions with Work Care and an MFB fire training officer, revealed the product did not have to be fire retardant or fire-proof due to the nature of the product – it was designed to get people out before the fire - not be pulled through fire. This research widened the material available significantly, however the right one still proved elusive. After trying a dozen or so materials and making half a dozen prototypes the right material was sourced. It has been flammability tested with **slow to no ignition** of the materials used. The AlbacMat™ also meets AS 2755.2 and AS 2001.2.3.2 standards and is CE marked (class 1).



*The AlbacMat™ in use*

## Design:

The design of the AlbacMat™ is primarily for ease of use. Tapered for patient comfort, it encompasses the patient without the need for a sleeping bag type structure. The patient is simply laid onto the AlbacMat™, strapped in and ready to be taken to safety, **by only one person**. The straps are Velcro that are parallel with the AlbacMat™ so that they are easily accessible – even if a person is struggling.

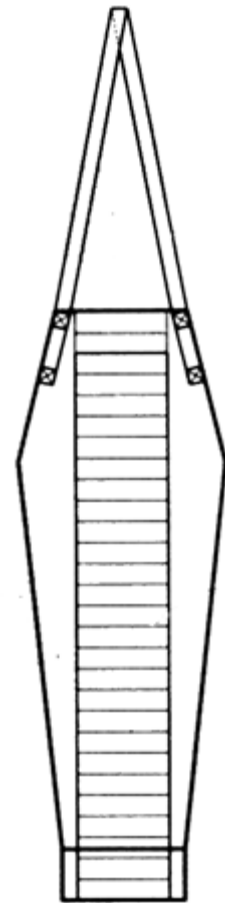
There are three sets of straps that can be positioned over the patient:

1. Across the torso of the patient.
2. Across the hips **OR** 1 and 2 straps can form an X over torso if required.
3. Across the shins of the patient.

The foot holder is designed to keep the feet contained, while also preventing the patient from ‘sliding off’ while in transit (especially down stairs).

An important factor in evacuations/rescues is sometimes the lack of assistance available. For example, night shift in a 30-bed nursing home may only have 2 staff members on duty. The AlbacMat™ has been designed so that only one person may be required to move the patient. Keeping in mind ‘safety in numbers’ during an emergency, 2 staff members can evacuate 2 patients simultaneously, whilst still being able to assist each other if required.

Perhaps the best feature of the AlbacMat™ is its storage requirements – or lack thereof. The AlbacMat™ rolls up into itself making it only 30cm by 7cm.



*The AlbacMat™ in storage mode*

Visibility and ease of use has been addressed, with the AlbacMat™ having fluorescent strips, and easy to read label with instructions to enable anyone not trained in using the AlbacMat™ to assist with rescues.

## Manufacturing

The product is manufactured to Australian Standards 2755.2 and 2001.2.3.2 with CE marking Class 1. Quality Control measures are conducted on each individual item to guarantee excellence under the guidelines of 9001 standards. The AlbacMat is warranted for 5 years from date of purchase.

## Material

All types of products have been ‘tried and tested’ for the job, and after months of trials it was found that corrugated polypropylene board performs superbly, is readily available and easy to work with. Most importantly it slides easily over Flotex and Uger carpet (most common in high traffic areas) and also lino and timber floors. It is extremely tough – with a crushing point of 4.92 (kgf/cm<sup>2</sup>) and will handle the task without stretching, tearing or burning. The material enables the rescuer to move the patient on the AlbacMat™ with relative ease as there is minimal friction, ensuring that one person may only be required to rescue one patient. The rigidity of the board removes any concussion while in transit and provides added protection to the patient.

## Testing

The AlbacMat™ has been trialled and tested in a range of situations and on various surfaces. The surfaces include Flotex and Uger carpet; linoleum and vinyl floors, as well as outdoor surfaces including gravel, bitumen and concrete. Because of the simple nature of the product, the testing was relatively simple – does it move easily over the surfaces required? This was tested at a number of health facilities and work environments with various weighted patients and rescuers. The AlbacMat™ can virtually be used by anyone, anywhere!



*Steps are no  
problem  
with the AlbacMat!*

The components and assembly of the AlbacMat™ have been independently tested by CSIRO (Textiles division). Their report includes the breaking point of the stitching being greater than 500kg with flammability testing being very slow ignition in a consistent flame environment and no ignition of the main material length ways. The reports of this testing are included in the Appendices.



## AlbacMat™ range of products

The AlbacMat™ was primarily designed for the Nursing home/ Aged Care market. Since its inception in 2003, the AlbacMat™ is now being used across many varied markets to include Emergency Services, Mining, Hospitals, Education facilities, Mortuary transfers and Marine vessels. As a result of these different needs, the AlbacMat™ has been developed to better suit the specific requirements of these markets.

### AlbacMat™ Rescue Mat (standard) - Pediatric adaptable

This is the original product that has been updated to cover a wider range of users. Best suited to the Nursing Home / Aged Care markets, the design has been upgraded to facilitate paediatric needs as well, with the addition of an extra securing strap and a thermal cover.



*To move a small child, use the top Velcro strap as the moving strap, with the two lower straps across the child*

### AlbacMat™ Large

Originally designed for the mining sector, this larger size AlbacMat™ provides an evacuation alternative for many situations. The AlbacMat™ Large has carry handles on each side and can be carried by up to eight personnel, making it ideal for outdoor rescue situations and indoors for non-slip flooring areas such as operating theatres. This size can accommodate larger or smaller patients by either securing the Velcro straps across the patient or in an X formation over the torso of the patient.

*The AlbacMat™ with Thermal Cover is larger at the torso, has 3 carry handles on each side and a thermal cover.*



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A **Bariatric** size is also available, based on the AlbacMat™ Large with a wider base board. Please contact your local distributor for more information.  
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### AlbacMat™ Holder

The holder has been designed by request to enable facilities to store four AlbacMat™'s (of either size) within a secure environment at the Nurse's station or with the Emergency Response Kit. This can prevent theft and also enables smaller facilities to access a number of AlbacMat™'s at once, rather than collecting them from different areas of the facility during an emergency.



*4 AlbacMats of either size can be stored together*

## Occupational Health and Safety

### *Training*

On site demonstrations may be conducted at the time of delivery. Detailed instructions on how to use the AlbacMat™ are contained within this manual, while there are also instructions printed on the label of each unit, and a separate training section on the DVD/USB provided. Further clarification of the AlbacMat™ in use is available from [www.albacmat.com](http://www.albacmat.com) , or please contact your supplier.

Separate products are not required for training purposes, however it is recommended to only train on soft/indoor surfaces (i.e. carpet) to avoid grazing the board on harsh surfaces such as gravel or bitumen. These surfaces will graze the board and reduce its slide-ability, should the unit be required in an emergency. Regular use of the AlbacMat™ 's within the facility for training is recommended to ensure familiarity with the product, and will assist with the general maintenance of the AlbacMat™.

New employees should be introduced to the AlbacMat™ during the induction process, with regular drills involving the AlbacMat™ at least every 6 months.

### *Safe Working Load*

The AlbacMat™ has a Safe Working Load of 500kg. This is beyond any human limits of manual transfer and therefore **the SWL is reliant upon the rescuers own capability**. Each facility/organisation also has it own directives on manual handling and all employees should be instructed on these.

### *Use of the AlbacMat™*

An emergency situation is a very unique environment where humans have achieved many 'impossible' feats that have saved lives. The AlbacMat™ aims to aid in the recovery of people from these situations without the need for 'heroics'. Allison comments "If you can use the AlbacMat™ during an evacuation drill or general training, then you will be more than able to use the AlbacMat™ in an emergency".

Familiarity is of great benefit in an emergency. While the AlbacMat™ is simple to use, prior training will reduce panic in an emergency, and the temptation to use the AlbacMat™ incorrectly. It is important to remember correct posture by using your legs (bend knees), not your back/shoulders. This symbol is included on the label to ensure these are not forgotten.



*Remember correct posture when using the AlbacMat.*

## Occupational Health and Safety (continued)

### *Correct technique*

To remember correct posture, it is important that two simple instructions are followed:

1. **Forward First.** Step forward as you raise the patient into the sitting position. This will automatically give you the **correct posture of straight back and elbows bent**. Remember to use your legs – not your back when using the AlbacMat™. The AlbacMat™ does not introduce anything new to your correct posture training.
2. **Gravity.** Be as close to the back of the AlbacMat™ as possible. By stepping forward as you raise the patient to begin the slide to safety you will be in the best position to ensure gravity does not work against you. The further you are away from the weight you are trying to move, the heavier the weight feels. By being as close as you can to the patient on the AlbacMat™, you eliminate any extra weight.



*Correct posture is important when using the AlbacMat. Keep your back straight and use your legs.*

### **Disclaimer**

Albac Enterprises Pty Ltd does not accept liability for incorrect use of its AlbacMat™ products. As the use of these devices may result in injury if used incorrectly, it is the users responsibility to ensure suitable training is obtained before use. Training is available via the supplied DVD and user manual, the designers website – [www.albacmat.com](http://www.albacmat.com) or from your supplier by request.

## General Maintenance

Units should be unrolled routinely every six (6) months to ensure all straps are in their correct location, ready for use. The routine should also include checking the stitching for any signs of weakness and the grazing of the board to determine suitability for emergency use.

## Cleaning

Units can be cleaned and/or sanitized with no detriment to the materials, although harsh chemicals are not recommended. A hose or cloth will suffice and towel drying to remove excess water is recommended. Allowing the unit to air-dry as well will ensure complete dryness to prevent mould forming before rolling the unit into its storage position. If there is body fluid contained within the webbing of the straps, it is recommended to either clean the AlbacMat under strict hygiene controls or to replace the unit.

## After Use

Once the emergency is passed, all AlbacMat™ 's used for evacuation should be inspected by an authorised person for any damage. The stitching on the handles and straps must be inspected closely for any breakages or signs of wear. Please also check the stitching surrounding the polypropylene board. If stitching is worn or broken in any place, it is recommended to replace the item, as the strength of the material will be weakened and re-stitching is not recommended. Included in the inspection routine is the under side of the polypropylene board which needs to be checked for grazing or puncture damage. Slight grazing (no bigger than a fist) and small punctures (from gravel or rough terrain) will not restrict the performance of the AlbacMat™, however if grazing is significant, the material will lose its slide-ability and therefore its ease of use, and replacement is recommended.

*Routine examination includes the amount of grazing on the board and checking the stitching at the handles after use.*



If the AlbacMat™ passes the inspection it can be cleaned before rolling up and put back in place for future use. When rolling it up for storage, have the left side (reverse angle ie: person rolling is at head end and facing mat length ways; the rollers left) of the mat on the bottom of the overlap to avoid the joining of the Velcro straps.



## Using the AlbacMat™

All employees must know the location of the AlbacMat™.

### *On the Mat*

To use the AlbacMat™ hold the AlbacMat™ by the top handle across your body with the logo away from you. Be standing at the foot end of the bed/patient and release the AlbacMat™ to unravel it from within itself (keep hold of the handle) beside the bed. Once unravelled, position the mat beside the patient – either on the floor or on the bed. With the patient on their side, butt the AlbacMat™ to their back and roll the patient onto their back once more so that they are now on the AlbacMat™.



*Unrolling the AlbacMat™ for use*

An additional method is to undo the Velcro and place near the feet of the patient. Move to the shoulders of the patient and roll them away from the AlbacMat™ onto their side. Keeping hold of their shoulder, use the other hand to unroll the AlbacMat™ beside their back. Roll them onto their back and continue.

### *Evacuation*



*Lowering the patient from the bed to the floor*

Using the straps down each side, strap the patient in across the Chest, Hips and Knees. Use the side straps at the head end of the AlbacMat™ to turn the patient and lower them from the bed. You can then use the short strap behind the patients' head to slide them to safety. If the patient is on the floor, use the handle directly behind the patients' head. As you raise the patient, step forward into the back of the AlbacMat™. This will ensure correct posture while moving the patient. If the patient is in a narrow area (i.e. bathroom), use the **handle** (not the strap) at the foot end to move them to an area where you can then transfer to the handles at the head end for your comfort.

Once the patient is at the assembly point, they can be left on the AlbacMat™ while the rescuer returns to evacuate other patients.

### **Two person rescue**

Two people may be required with a large or difficult patient. Each person should face forward, with one hand on the under handle of the AlbacMat™ leaving the outside hand free. Together they should raise the patient – remembering to walk towards the back of the AlbacMat™ first, to ensure correct posture.



*Two people can evacuate a patient with ease*

## Stairs

The AlbacMat™ has been tested using various methods of descending stairs and staircases. While it is preferable to have two ‘rescuers’ when negotiating stairs, it can also be performed by a single person. The two methods are almost opposite in their application. I have listed the recommended procedures for each method below.

### *Single personnel:*

It is recommended that the under handles be used for maximum control. The rescuer has brought the patient to the staircase and may need to adjust their handle usage before beginning the descent. The rescuer walks on a backward angle down the stairs so that the patient will travel backwards down the stairs. Be aware that the patients’ bottom will rest on each step so some caution will need to be taken. The patients back may rest against the rescuers thigh. This will assist with balance and gravity for the rescuer as they can almost push into this weight as opposed to being pushed down the stairs.

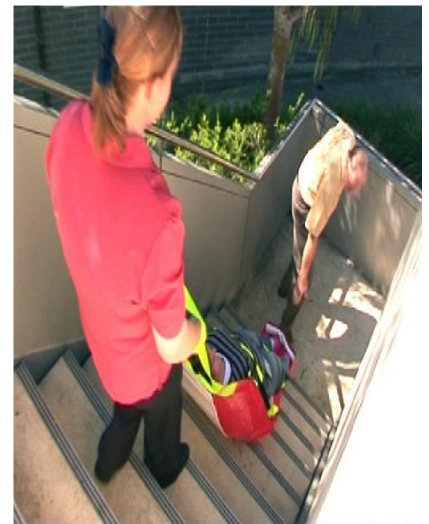
The above method enables the rescuer to have full control of the patient and they can turn them as necessary to negotiate each flight of stairs.

### *Two personnel:*

The evacuation involving stairs can be performed a lot quicker with two personnel. One person will need to be stationed on the stairs.

The rescuer will slide the patient on the AlbacMat™ to the top of the staircase. The patients’ feet need to be over the edge of the stairs so the person on the stairs can assist using the **handle** (not the strap) at the foot pocket in positioning the patient. This person then guides the patient until their feet/body are resting on top of the stairs.

The person at the head end is to guide the patients’ weight. The AlbacMat™ will do the work. They need to walk down the stairs almost normally. The longer strap is best to be used. The method is to allow the mat to ‘glide’ over the top of each step, so the more board contact there is on the stairs, the better weight transference and the easier it will descend.



## **Stairs** (continued)

The person at the foot end is there as a support and can slow the patient if the person at the head end feels the descent is too fast. Simply raise the feet using the handle on the foot pocket (**not** the blue securing strap). The person at the foot end is also the person who turns the patient around the staircase for the next flight. They are also able to ‘tug’ the AlbacMat™ should it stall on the edge of a stair.

This is the quicker method (and certainly more comfortable for the patient).



*Two person descent. The person at the foot end is a few steps lower than the pocket to ensure good posture. The person at the head end allows the AlbacMat™ to glide over each stair.*

## **Up Stairs:**

Although going upstairs is not ideal, the AlbacMat™ can still assist with rescues that require ascending stairs.

Going up stairs is best done with two personnel as gravity will be working against you, and sliding a patient up stairs may become difficult. Individual rescuers abilities, length of stairs and patient weight and co-cooperativeness will determine personnel required.

There is really only one method and that is to go straight up! Using the side handles at the head end of the AlbacMat™, each rescuer should be facing the stairs (therefore having their back to the patient). Ensure correct posture of each rescuer and have the patients torso raised to a nearly sitting position. This will assist both the rescuers and patient's comfort. Caution will need to be exercised as the bottom of the patient may rest into each step – although if torso is raised – this is minimized, and the airflow through the board will provide some cushioning for this.

## **Summary:**

It is important to remember correct posture – straight back and use legs – when using the AlbacMat™ and to have the patient in a sitting position during transit (except when going down stairs). Caution is advised for all ‘rescuers’ and Albac Enterprises Pty Ltd does not encourage any persons to endanger themselves whilst using the AlbacMat™.

## **Where the AlbacMat™ is being used:**

As explained earlier, the AlbacMat™ was designed for the Aged Care/Hospital market to assist in the efficient evacuation of residents or patients who required assistance to evacuate.

New market have now formed as the reach of the AlbacMat™ continues. Each person who views the AlbacMat™ has a new use for it! The development of the AlbacMat™ with Thermal Cover was originally to cater for the mining sector, but it has also proved its use in the hospital market, especially in Theatre Rooms as patients can be carried over the non slip flooring in this environment.

Other markets to take advantage of the more effective way to move immobile are:

**Mining** – has taken full advantage of the AlbacMat™ with Thermal Cover with numerous wins in evacuation competitions.

**Mortuary transfers** – unfortunately stretcher trolleys do not reach every conceivable location and it is a way of moving the deceased with minimal handling until the trolley can be accessed.

**Schools** – especially those with students who have special needs. It ensures the student can be moved in an emergency event, safely for all involved.

**Cruise ships** – being such a confined area, storage space is paramount. When patrons are enjoying the activities of a quiet island (i.e. hiking) and become injured, they can be easily moved back to the ship for treatment.

**Emergency Services** – The Metropolitan Ambulance Service (Vic) have installed the AlbacMat™ with Thermal Cover in their Complex Patient Vehicles. Some stations of the Country Fire Authority (Vic) also have units in their rescue vehicles and trucks. State Emergency Services (Vic) branches also have the AlbacMat™ in their vehicles to assist in the variety of situations they work in – car rescues etc.

**General Public** – Many people have purchased the AlbacMat™ as a safety precaution should an emergency occur in their home. The situation may arise that they are unable to move their spouse, sibling or child in the event of (for example) a house-fire, and they suffer smoke inhalation or become unconscious due to a fall etc.

The AlbacMat™ really is an item that can be used in a variety of places and situations. Simple bathroom falls of the emergency of an unconscious person in any environment means an AlbacMat™ should be available at all times – at home, at work and even in the car!