

AreaCare Outcomes

Reference: Pan Pacific Guideline for the Prevention and Management of Pressure Injury (2012)

FEATURE		RATIONALE	BENEFIT	OUTCOME
FOAM FEATURES				
Classification	H/HR	<p>Classification according to the Australian Standards (AS2281-1993).</p> <p>H - conventional resilience, heavy duty HR - high resilience LR - Low resilience</p>	The AreaCare range are classified according to the Australian Standards	Increased product longevity
Multilayering	Three layered multigrade foam	<i>Multi-layering</i> of various grades / types of foam alters design features. Different density-hardness layers produce a harder base that increases upper weight limit.	All AreaCare mattresses consist of three layers of multigrade foam	Reduction of Pressure Injury risk
Slow Recovery Foam	Memory foam top layer	<i>Slow recovery foam</i> increases the surface area contact, redistributes pressure, reduces peak pressures and allows immersion of bony prominences. Has potential to increase skin surface temperature.	All AreaCare mattresses have a slow recovery, memory foam top layer	<p>Reduction of Pressure Injury risk</p> <p>Increased compliance and improved user experience</p>
Density / Hardness	35-130kg/m3	<p><i>Density</i> is the weight of the foam in kilograms per cubic metre kg/m3. <i>Hardness</i> is the ability of foam to 'push back' and carry weight.</p> <p><i>Hardness</i> is defined as the amount of force (in Newtons) required to indent a sample of the foam by a specific percentage of the original thickness. This is known as the indentation force deflection (IFD). In Australia and Europe hardness is measured at 40% IFD.</p> <p><i>Density/hardness</i> defines the grade of foam and is stated with density followed by hardness.</p> <p>35-130 kg/m3 (minimum for single layer foam mattress) Variance in the hardness exists in top and middle layers of multilayer designs.</p>	All AreaCare mattresses meet the required density/hardness requirement	<p>Reduction of Pressure Injury risk</p> <p>Increased product longevity</p> <p>Increased compliance and improved user experience</p>

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Support Factor	1.6 to 2.6	<p>An indicator of foam comfort that is calculated as a ratio: <u>IFD at 65%</u> IFD at 25% = support factor</p> <p>A higher value usually indicates a softer feel and good base support.</p> <p>IFD: 1.6 to 2.6</p>	All AreaCare mattresses have a support factor in the desired range	<p>Reduction of Pressure Injury risk</p> <p>Increased compliance and improved user experience</p>
Depth	150 mm	<p>Consider depth of the mattress alongside density/hardness. Different foam grades require different depth to manage upper body weight and prevent bottoming out.</p> <p>150 mm Mattress depth needs to be increased to support bariatric load.</p>	Th AreaCare mattress range are 150mm deep with king single 180mm deep to accommodate a bariatric load	<p>Reduction of Pressure Injury risk</p> <p>Increased product longevity</p>
Castellated Foam	Castellated memory foam top layer	<p>Partial thickness cuts made in a regular block pattern on the top section of the foam increases surface contact area potentially reducing friction and shear.</p> <p>Spacing between the castellations can assist in transmitting moisture and heat to improve microclimate management</p>	The AreaCare Pro mattress has a castellated top layer, with gaps between castellations for ventilation.	<p>Reduction of Pressure Injury risk</p> <p>Microclimate Management</p>
Side Walls	Firm edge side walls	<p>Side walls: a border or stiffener along the edge increases firmness and assists mobility and transfers. Reducing risk of falls at the bed side due to mattress edge bottoming out when seated at the bed side.</p> <p>Resists deformation when visitors perch at the bed edge.</p>	The AreaCare Plus and AreaCare Pro both have sidewalls	<p>Reduce risk of falls</p> <p>Reduced caregiver injury risk</p>
Hinging System	Present on side walls	Hinging system: wedges removed on the inner border to allow for folding or bending of mattress to accommodate back rest and upper and lower leg sections to conform to profiling beds	The AreaCare Plus and AreaCare Pro both have hinged wedges in the sidewalls to facilitate the bed profiling	<p>Increased product longevity</p> <p>Increased compliance and improved user experience</p>

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COVER FEATURES					
Cover Manufacturer	Gold Standard Carflex materials	Utilising a reputable textile manufacturing company provides piece of mind that the product will meet all the expectations required for quality pressure care and longevity of the product.		Quality Carflex top covers ensure the maximum therapeutic benefits are received.	Reduction of Pressure Injury risk
Multiway stretch	Cover stretches in all directions	A multidirectional stretch fabric allows the cover to conform in all directions, facilitating its ability to immerse and envelop. A 2 or 4 way stretch only conforms in these distinct planes and may decrease the flexibility of the cover, minimise protection from shear and friction in certain movement directions. Multidirectional stretch improves the ability of the cover to resist delamination		The multiway stretch ensures that maximum reduction of shear and friction forces occur due to user movement or the effect of gravity.	Reduction of Pressure Injury risk Increased product longevity
Low friction fabric	Minimising the effect of friction	Risk of friction and shear can be reduced with a low friction fabric. This can be achieved utilising a specialist designed smooth fabric that has a multi directional stretch. The balance is achieving the appropriate amount of friction reduction, without it becoming too slippery whereby the sheet and person will slide down the bed when in a fowler position.		Quality, appropriate low friction fabric is smooth, quiet, comfortable and minimises friction between the mattress and the skin.	Reduction of Pressure Injury risk Increased compliance and improved user experience
Vapour Permeable	Allows moisture vapour to pass through for 'breathability'	In assessing vapour permeability, the relevant measurement is moisture vapour transmission rate (MVTR). Increasing the MVTR potentially allows the trans epidermal water loss of intact skin to transpire through the cover. Decreasing the MVTR of the cover protects the foam from moisture degradation, increasing MVTR improves the vapour permeability. Changing the MVTR becomes a compromise between managing local climatic conditions and the person's trans epidermal water loss. The recommended MVTR is a minimum 150-200 g/m ² / 24 hrs, which is equivalent to normal patient trans epidermal water loss.		Meeting the desired MVTR range the cover demonstrates breathability, managing the risk of poor microclimate and improving the comfort of the user on the mattress surface.	Reduction of Pressure Injury risk Microclimate Management Increased compliance and improved user experience
Moisture impermeable	Resists the passing of moisture particles which will remain on the surface for cleaning	The surface is required to be water resistant. This is a fine balance in the space between the fibres of the cover to be wide enough to facilitate breathability, whilst small enough to prevent liquid ingress. This is known as 'strike through'		The AreaCare mattress is moisture impermeable minimising risk of strike through when used, cared for and maintained correctly.	Infection Control Increased product longevity

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AcuteCair: Fully Sealed Base	High strength and waterproof	<p>The articulations of a bed create high force on the mattress base, the base needs to tolerate this in order to prevent breakdown of the cover under surface.</p> <p>If the mattress internals are inadvertently contaminated, a waterproof base will prevent contaminants or fluids entering the bed mechanics.</p>	The AreaCare Plus has a fully sealed acute care grade mattress base to withstand wear and tear and prevent fluid contamination of the bed.	<p>Infection Control</p> <p>Increased product longevity</p>
Welded and stitched seams	Strength of joins from stitching and contaminant impermeable from welding	<p>Although welded seams are a necessity for infection control, the durability of this fixation is reduced. Stitched seams are stronger, but not able to prevent ingress of fluid.</p> <p>A combination of stitched and welded seams gives durability whilst ensuring adequate infection control is maintained.</p>	Seams are stitched and heat welded to ensure strong fabric bonds, that offer complete protection from fluid or infection ingress.	<p>Infection Control</p> <p>Increased product longevity</p>
Waterfall flap	Protection to the zip from contaminants	Zippers are unable to be sufficiently sealed for ingress of moisture and contaminants. A waterfall of fabric on the mattress sides protects the zip from exposure.	Four sided waterfalls of sufficient length to cover waterfall and sit flush to mattress side.	<p>Infection Control</p> <p>Increased product longevity</p>
4 sided zipper	Allows top cover removal for washing and access to cells	Machine washing of the cover is the most objective way to ensure the mattress is free from contaminants. It also minimises build up or particles which can compromise the cover surface.	Full four sided zipper allows ease of removal of the top cover for inspection of mattress and machine cleaning as part of a general maintenance and decontamination process.	<p>Infection Control</p> <p>Increased product longevity</p>
Antimicrobial	Protection for infection being trapped in the mattress surface	The mattress must also account for the ingress of bacteria, virus, fungi and other contaminating microbes. The mattress cover needs to possess anti-bacterial, anti-microbial, antiviral and fungistatic qualities through type of material, reduced size of space to permeate through, and treatment agents impregnated in the cover.	Quality Carflex cover offers full microbial protection.	Infection Control
Wipeable and washable	Able to tolerate disinfection chemical wiping and machine washed at sufficient temperature.	<p>To minimise risk of infection the cover should be wipeable and tolerate a 10,000ppm disinfection chemical concentration with a contact time of at least 1 minute.</p> <p>The cover needs to be easily removable to facilitate regular washing in a machine. A minimum of 65°C for 10 minutes or at a minimum of 71°C for no less than 3 minutes, according to AS/NZS 4146:2000. This also prevents build-up of microorganisms in the washing machine</p>	Wipeable to 10,000ppm and machine washable, the AreaCare cover is designed to promote decontamination and cleaning processes.	<p>Infection Control</p> <p>Increased product longevity</p>
Fire Retardant	Minimising risk of ignition of mattress during a fire	Mattresses must meet the criteria specified in Local Fire Standards. A good indication of ignition resistance is the support surface compliance to CRIB 5 and BS 7177.	Fire retardant to all local and international fire standards ensuring a positive contribution to a fire safety program.	<p>Prevention of adverse events</p> <p>Fire Safety</p>