

SUMMARY

	PRODUCT WEIGHT	PERFORMANCE GUARANTEE (YEARS)	PERFORMANCE GUARANTEE (YEARS) COVER
HOSPITAL MATTRESS	CIRCA 11kg	10	5
OVERLAY	6kg	5	5
SEAT CUSHION/ WHEELCHAIR CUSHION	1kg	5	5
TROLLEY MATTRESS (STRETCHER)	8kg	5	5
LOWER LEG SUPPORT	1-1.2kg	5	5

"Patients with Waterlow scores under 25 did not develop pressure sores on the Thermo contour® mattress."

Sylvie Hampton, 1998/99

IN BRIEF

- PATIENT WEIGHT TO 160kgs
- PRODUCTS NEVER NEED TURNING
- X-RAY TRANSLUCENT
- NO LATEX / NON ALLERGENIC
- COVER WASH AT 75°C or wipe down with normal hospital cleaning fluids or sprays



DURABILITY CONTROL

Thermo elastic polymers used in Thermo comtour® mattresses were sent to Dow Chemical, a major international producer of chemical feedstock with independent testing facilities.

OBJECTIVE: To determine the viability of the claim that the Thermo elastic properties of the polymers used in products manufactured by Barrington Healthcare Products Ltd could be guaranteed for 7 years hospital use.

METHOD: Dow was asked, by means of an accelerated humidity ageing test, to see whether the polymers would retain their slow-recovery properties after prolonged service life.

a) Dow conducted the humid ageing test in an autoclave for 5 hours at 120°C with 100% Relative Humidity. In addition two dynamic fatigue tests were conducted, one at 23°C with 50% Relative Humidity the other at 40°C and Relative Humidity of 100%

b) A separate test was carried out for the lower density polymer used in the mattress to determine thickness and hardness loss in a tough hospital environment. The material was subjected to 40,000 compressions of 750 Newtons at the rate of 15 per minute in conditions of 40°C with a Relative Humidity of 100%

RESULT: The slow recovery characteristic and feel was retained in full at the end of the test.

Hardness and thickness loss figures are given below:

After one hour recovery	Loss of thickness: 4.3%
	Loss of hardness: 38.0%
After a further 23 hours	Loss of thickness: 4.3%
	Loss of hardness: 18.0%
After a further 2 days	Loss of thickness: 2.5%
	Loss of hardness: 8.0%

CONCLUSION: The Dow findings backed by actual hospital testing show that:

- Thermo elastic polymers retain slow recovery factors right through their service life.
- The loss of thickness at less than 3% is very low.
- The loss of hardness is likewise very low.

Table II

Dynamic Fatigue before and after ageing
(Modified Test : All 40 000 cycles, 0.25 H3 (15 cycles/min. 750N)

Ref. 52-14	I		I	
Foam Grade	9550-120		9550-120	
Conditions	23°C 50% RH		40°C 100% RH	
% CFD Change	height	force	height	force
Relaxation time: 10 minutes	-3.6	-35	-4.2	-55
30 minutes	-3.6	-33	-4.3	-49
1 hour	-	-	-4.0	-38
5 hours	-2.7	-24	-4.2	-30
6 hours	-	-	-	-
7 hours	-	-	-	-
24 hours	-2.6	-21	-4.3	-18
25 hours	-	-	-	-
2 days	-2.2	-7	-2.5	-8

-% loss +% gain

(Dow 290196)



GUARANTEE

Thermo contour® products are manufactured according to quality assurance standard ISO 13485-2003 rules and are inspected before leaving the factory.

The following guarantees are accorded:

Guaranteed to maintain their initial pressure relieving performance and not to compress by more than 10% of original thickness. Accidental damage is not covered.

PRODUCT	EXPECTED LIFE	GUARANTEE PERIOD
HOSPITAL AND CARE HOME MATTRESS	10 years+	10 years
OVERLAY AND TROLLEY (STRETCHER) MATTRESS	7 years	5 years
SEAT CUSHION	7 years	5 years
LOWER LEG SUPPORT	5 years	5 years
COVERS	5 years+	5 years

Note: This guarantee remains in force only if Thermo contour® products are used or stored with their own covers on at all times.

Note: The cover takes most of the wear. If monitoring equipment is placed on the mattress or overlay, please protect the cover from sharp objects or corners by placing the equipment on a folded sheet or towel.

It is recommended to change the covers after 5 years to prolong the life of the products.

It is recommended that a spare cover is readily available in case of damage in order to protect the mattress, overlay, or cushion from contamination.

**STATIC MATTRESS****COMPARISONS**

Physical data:		Standard foam block	Layered foam	Thermo contour [®]
Density:	Kg/m ³	35-38	35-48	55
Foam type:		Polyurethane H R	H R	Thermo elastic polymer
Hardness:				
- at room temperature	circa	110 N	90 N	100 N
- at body temperature	circa	110 N	90 N	65 N
Maximum peak pressure resistance mm/Hg: (with cover)				
- when new		38	30	28
- after 6 months		45	35	27
- after 36 months		50+	40	27
- after 84 months		-	-	27
(European norm : 32 mm/Hg)				
Mattress weight:				
- without cover	Kgs	9-9.5	9-12	12.5
- with cover	Kgs	10-10.5	10-13	13.5
Durability:		Standard foam block	Layered foam	Thermo contour
loss of thickness in the middle of the mattress				
- at 6 months		15%	8	0
- at 12 months		25%	10	0
- at 3 years		40%	25	0
- at 4 years		R E P L A C E D		0
- at 7 years		-	-	0-5%



INSTRUCTIONS FOR USE

Thermo contour® mattresses contain visco elastic polymers which soften at body temperature to contour perfectly to the shape of the body. They are suitable for patients from weighing up to 160 kgs.

At temperatures below 15°C the Thermo elastic element in the mattress becomes very firm. At room temperature flexibility returns. After a few minutes under the body of a hospital patient or care home resident, the mattress softens.

STORAGE: The mattress can be stored flat, on the side, or on end without damage. It is not affected by freezing nor high temperatures up to 60 degrees °C. It should always be stored with the original cover in place. Shipping weight with packaging is approximately 14 kgs. They can be stacked to a maximum height of 20 mattresses.

HANDLING: The mattress weighs circa 12-14 kgs depending on size. There are handles on one side of the mattress for carrying.

IN SERVICE: No preparation is needed. The product can be put into service immediately. Use an ordinary cotton sheet. No mattress protector should be used. The breathable surface absorbs perspiration but remains liquidproof.

MAINTENANCE: Thermo contour® mattresses require no maintenance. No turning nor rotating is required to maintain effectiveness. They are guaranteed serviceable without loss of thickness by more than 10% or effectiveness for 10 years.

CAUTION: Take care that sharp instruments and other medical equipment do not pierce the cover.

SAFETY: Thermo contour® products meet all national and international standards for fire safety. They are non-allergenic; contain no latex; transparent to X-rays; non-static; fungus and bacteria resistant.

HYGIENE: The liquidproof polyurethane cover is made from vapour permeable coated textile. It is effective for as long as the surface is undamaged or becomes worn through. The cover is guaranteed for 5 years.

NOTE: When replacing the cover, ensure that it is put on the right way up. Both the cover and the mattress are clearly labelled.

RECOMMENDATION: It is recommended that one spare cover be made available for each 20 mattresses in service. Only genuine Thermo contour® covers should be used.

THERMO CONTOUR COVERS CLEANING INSTRUCTIONS

By following these simple instructions Thermo contour® covers should give many years service. They are guaranteed against manufacturing fault for five years.

Cleaning does not diminish fire safety, nor treatment for anti-static or anti-fungus.

- For normal cleaning use neutral detergent and water solution. Avoid concentrated bio detergent which can leave a bloom on the surface.
- Disinfection can be effected by using diluted Hypochlorite to 1,000 (10%) ppm. If other products are used please refer first to the manufacturers guidelines.
- Do not use abrasive methods such as
 - Scrubbing brush
 - Acetone (nail polish remover)
 - Paint remover
 - Sodium Hydroxide
 - Bleach
 - Phenols
- Although a 60°C machine wash for 3 minutes will normally produce a perfectly clean result, Thermo contour® covers can be repeatedly washed at 75°C for 5 minutes, spun, and may be tumble dried at a maximum of 110°C.
- Covers can normally be hung to dry before folding and putting them away. Please do not use an iron nor wring them out by hand or use a mangle. Store in dry conditions.
- Stubborn stains may be removed with concentrated hand soap such as Hibiscrub*.
- Covers can be autoclaved at temperatures up to 110°C. It is recommended to keep in stock one new or washed cover for every 20 products in use.
- Once a cover is damaged it should be replaced at once. If any infection reaches the mattress inner it should be taken out of service right away and destroyed. It is not possible to effectively disinfect any mattress inner.

NB. ALWAYS USE OR STORE THERMO CONTOUR® PRODUCTS IN THEIR OWN COVERS.

Hill-Rom phone numbers for Thermo Contour Cleaning Instruction Sheet

France	+33 (0) 297 50 9212
United Kingdom	+44 (0) 1530 411000
Deutschland	+49 (0) 211 164500
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Österreich	+43 (0) 2243 28550
Iberia	+34 (0) 93 685 6000
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Export : call your local Hill-Rom distributor or call	+33 (0) 297 509212
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