



GUIDANCE FOR POOL COVER SIZING

SHRINKAGE GUIDE



PLASTIPACK LIMITEDTM
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Introduction

Throughout the bubble pool cover industry, manufacturers and fabricators have found that the covers undergo a small amount of shrinkage on the pool.

Due to this, it has become common practice for most bubble cover material manufactures to recommend - as a matter of best practice - a 2% addition to the total length of the material.



What Causes Shrinkage?

During the extrusion process, the polymers used are placed under strain as they are processed through the production systems in their molten state. As the material is cooled, this residual stresses become 'frozen in'.

Polymers naturally try to revert to their relaxed state by releasing tensions (Residual stresses). As these tensions are released, the material undergoes a change in dimensions. To do this the material requires molecular mobility which is provided by heat.

This results in most of the post process shrinkage occurring on the production line as the material cools. However a small amount of this tension can remain frozen into the material. These tensions can remain 'frozen in' the material until the polymers gain enough molecular mobility to fully revert to their relaxed state.

Once again similar to on the production line this will occur when the material is heated sufficiently to allow for the polymers to release these tensions. (i.e. when the cover is placed on the pool.)

How does it present itself on a pool?

Shrinkage is seen on some covers installed on pools as a dimensional change, most notable in the length of the material.

(As indicated by the red arrows in the picture to the right.)



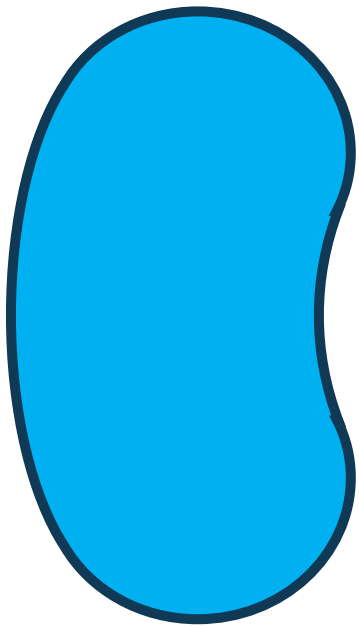
How can this issue be prevented?

To help to minimise shrinkage, Plastipack endeavour to remove as much unnecessary strain on the material as we possibly can. Unfortunately however it is not possible to remove all tensions from the manufacturing process.

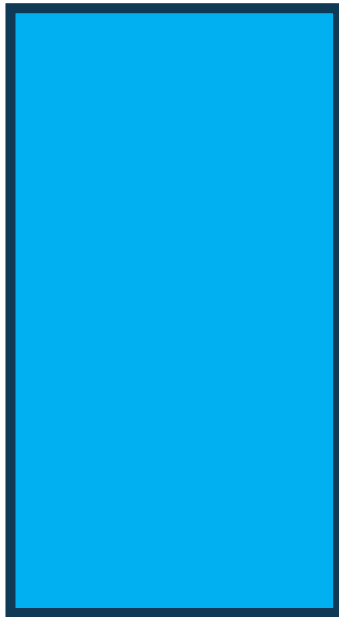
Through these efforts Plastipack manage to keep this shrinkage under 2% of the dimensions of the cover, should the material reach a point where it gains enough molecular mobility to undergo this dimensional change.

Guidance for oversizing cover designs

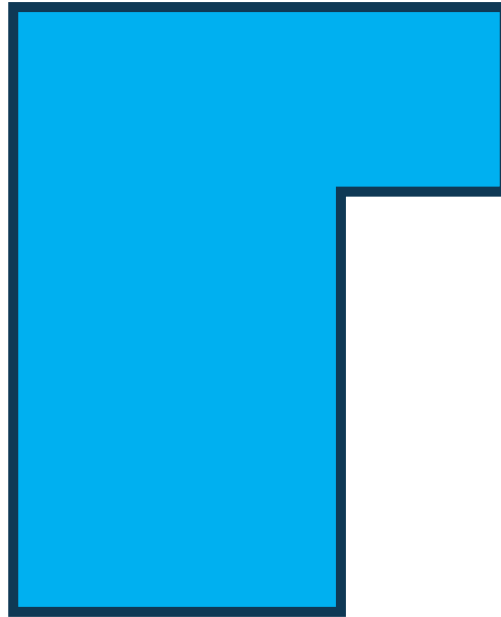
PLASTIPACK UNDERSTANDS THAT IT CAN BE CHALLENGING TO VISUALISE THE ADDITION OF THE INDUSTRY RECOMMENDED 2%, WHEN CUTTING COVERS TO SIZE. TO HELP WITH THIS WE HAVE CREATED GUIDE ILLUSTRATIONS TO ADVISE ON A NUMBER OF COMMON POOL DESIGNS.



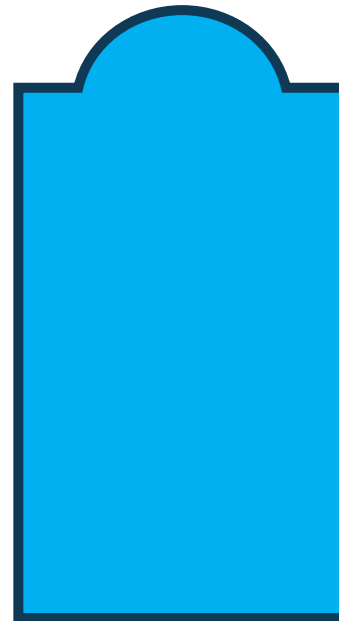
Kidney



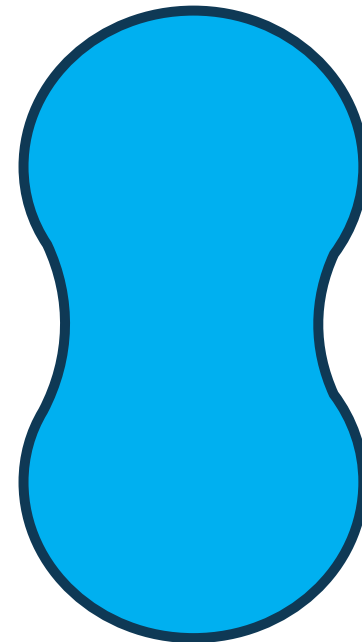
Rectangle



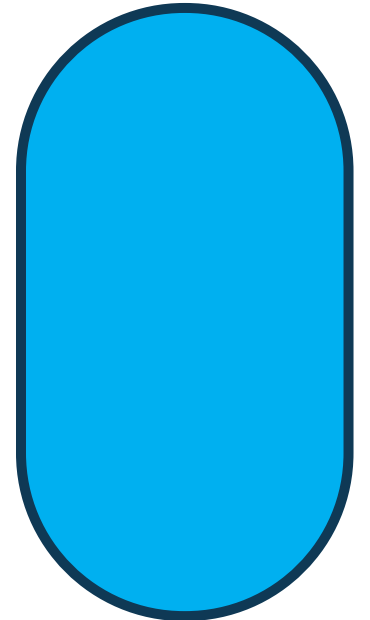
L shaped



Roman Ended



Free Form

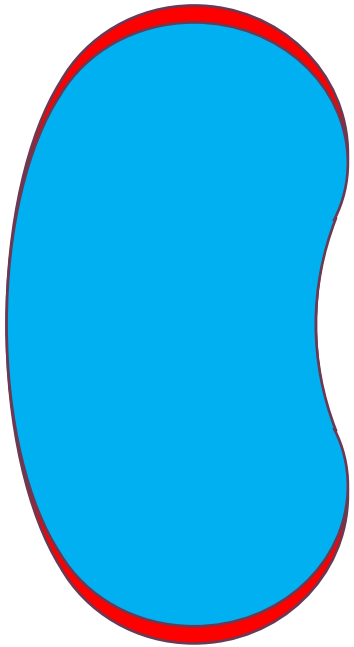


Oval

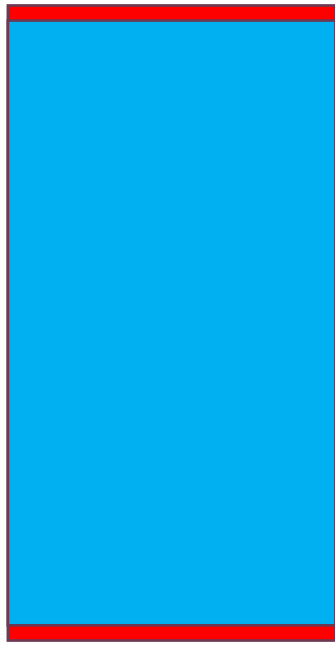
Guidance for oversizing cover designs

Sizing guide for common pool lengths

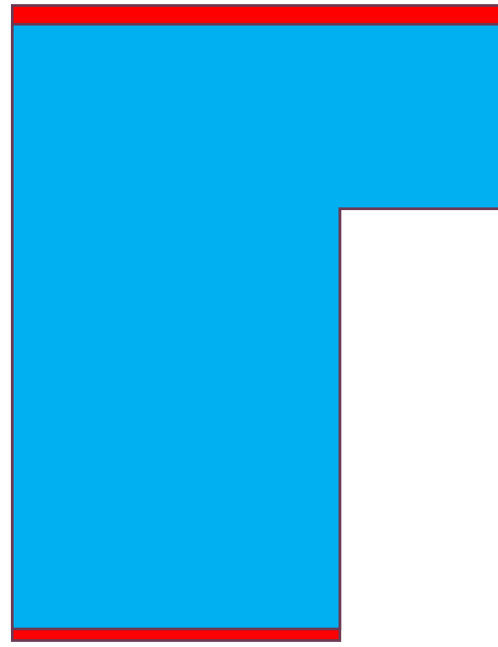
Cover Size	Additional 2%	Cover Size	Additional 2%	Cover Size	Additional 2%
4m	80mm	8m	160mm	12m	240mm
6m	120mm	10m	200mm	14m	280mm



Kidney



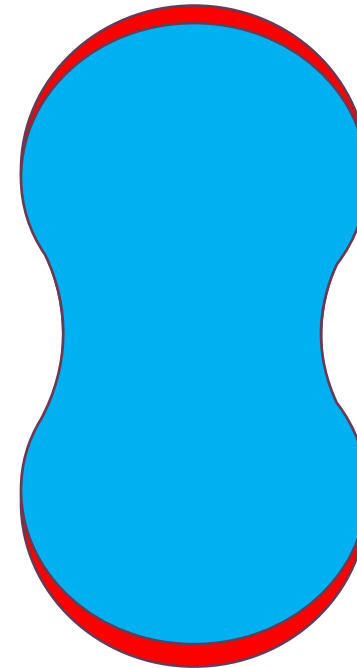
Rectangle



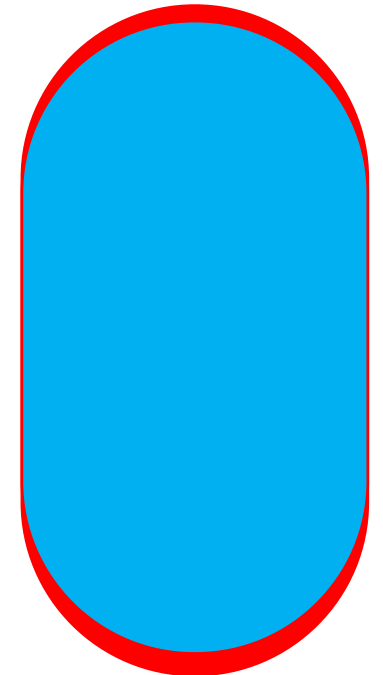
L shaped



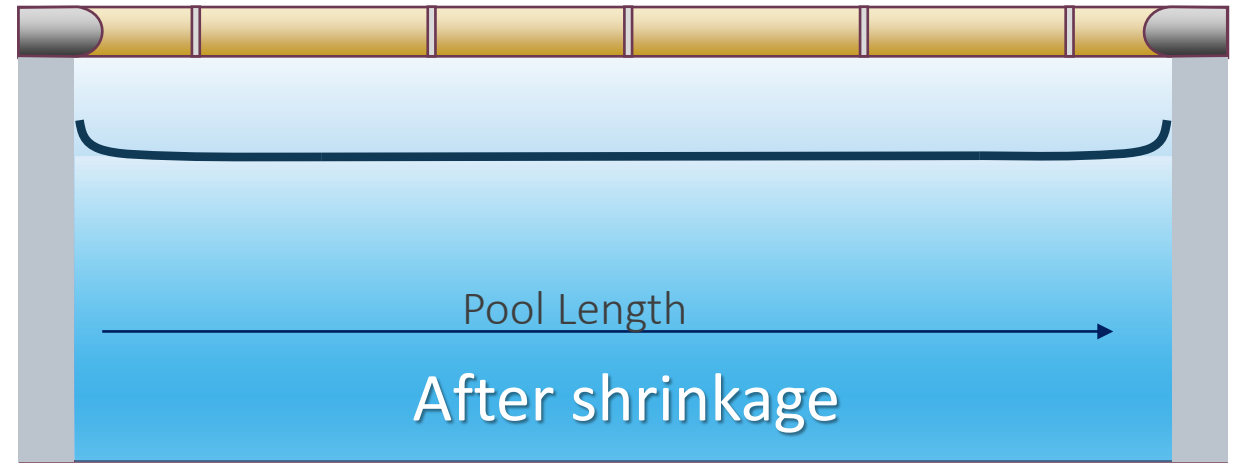
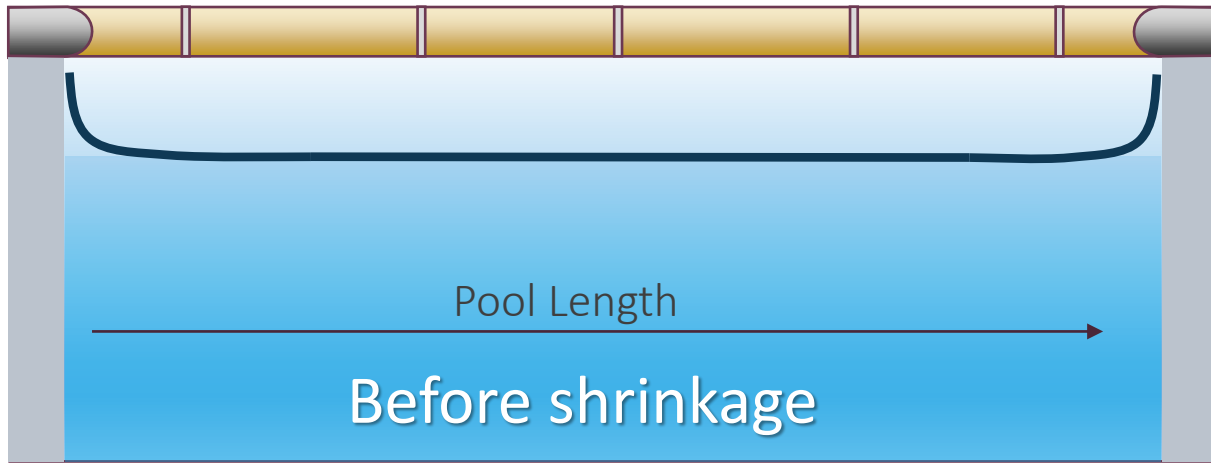
Roman Ended



Free Form



Oval



Cross section of the overlap

The 2% added to the length results in the material sitting slightly proud of the water at each end. This ensures a good covering of the pool without effecting the covers lay flat or aesthetic. This overlap also helps prevent debris falling down the sides and into the pool.

Should the cover undergo shrinkage, this method will still allow for a short lap up on the walls of the pool ensuring good coverage, without a risk of open areas at one end of the pool.

Cutting around ladders

Shrinkage can be most problematic when cutting around ladders and fixed features within the pool.

To counter this there are two options to provide a good coverage of the pool while maintaining the lay flat and aesthetics of the pool.



Cutting Around Ladders

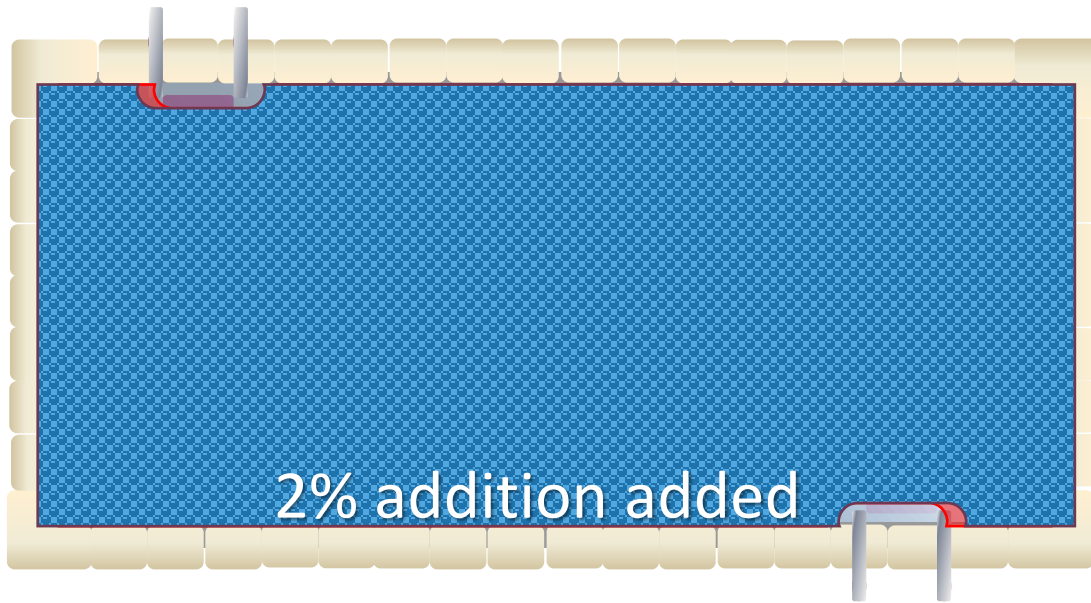


Image A: The rounded cut prevents tear propagation should the material become caught on the ladder while being reeled on or off the pool.

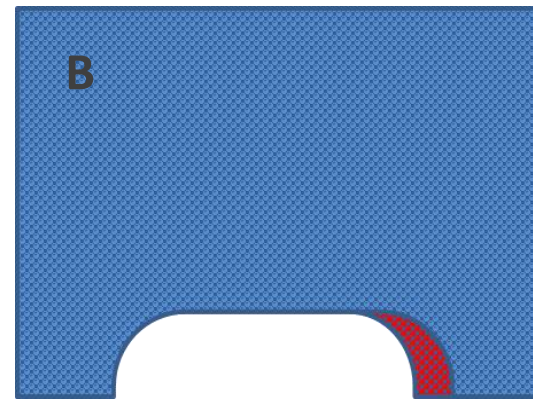


Image B: This demonstrates the small area (in Red) that may require trimming, without any harmful effects to the aesthetics and lay flat of the cover.



Ladder Hinges

An alternative and aesthetically pleasing solution to ladders in the pool are the use of ladder hinges. These allow for a simple cover design without risk of damage to the material while providing the maximum coverage of the water surface to prevent evaporation.

To the left is an image of a standard ladder hinged set up on a rectangular pool.

As you can see, the ladder hinges safely, securely and neatly hold the ladders out of the pool allowing for a simple cover design with maximum coverage of the water's surface. Once the cover is removed and stored under thermally reflective sheeting for storage off the pool, the ladders can be easily and simply reinserted into the pool for use.



Will my blanket shrink?

Yes, your blanket will shrink over its life span approximately 1 to 2%. We recommend you cut the blanket approximately 60 to 75 mm larger all the way around with a pair of sharp scissors .

<https://poolcovers.com.au/faq/#will-my-blanket-shrink>

To the left and right are quotes from two of Australia's largest and most respected pool cover suppliers in their industry (with a quality comparable to our own). Daisy's, Elite's and ourselves bubble designs all adhere and are awarded the SMARTWater mark product quality standards.

As you can see, the advisory given by Plastipack is not unique but a standard best practice procedure throughout the industry.

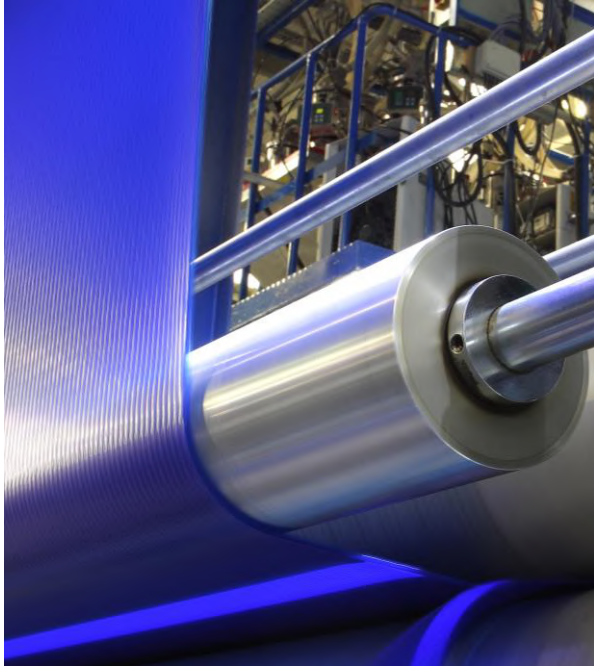
All manufactures recommend a slight oversizing of the covers in their length to allow for this natural process of the polymers to occur and doing so is standard procedure whenever possible in both Europe and Australia.



How to Trim Your Pool Cover to Size

Solar pool covers CAN naturalise (shrink) up to 1% in length only in the first few weeks, but they will not shrink in width.

<https://daisypoolcovers.com.au/pool-cover-myths-settling/>



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