

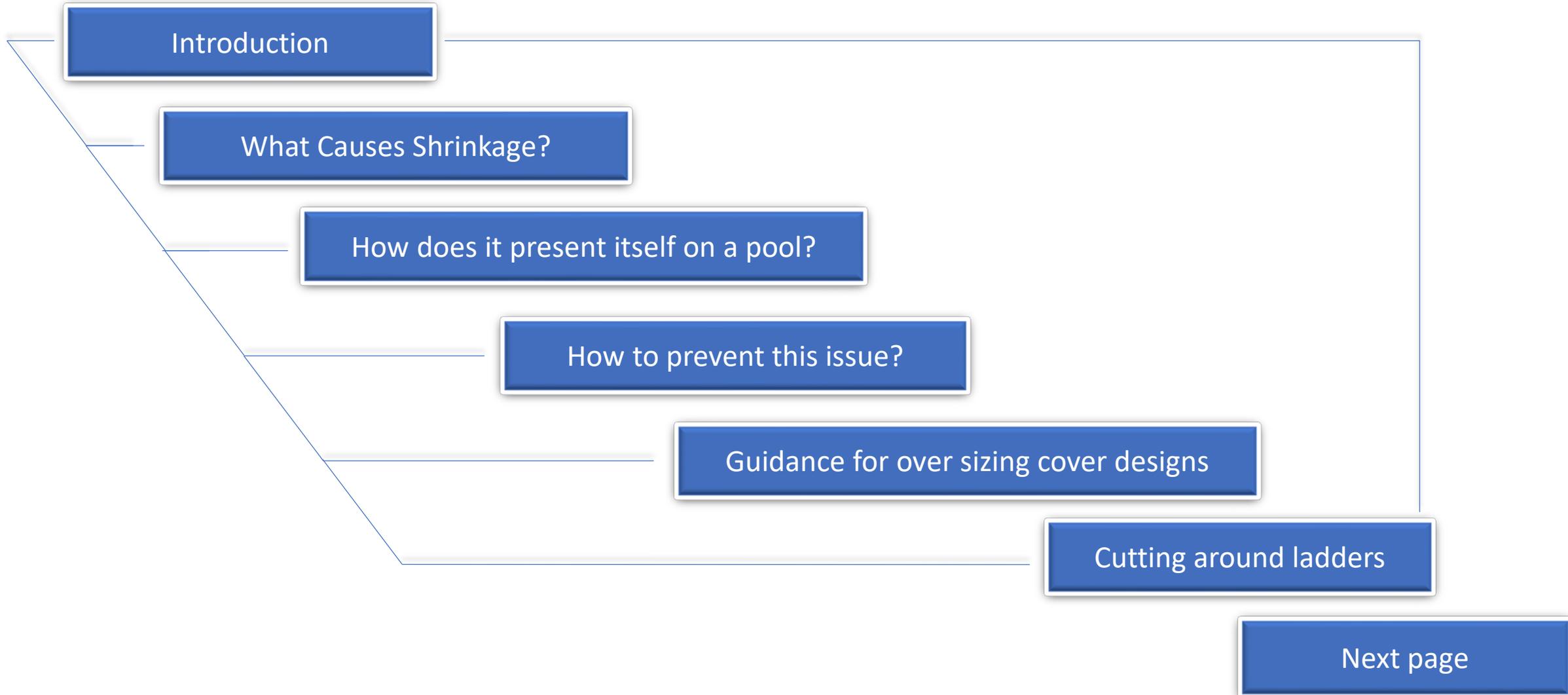
PLASTIPACK LIMITED

Manufacturers of Energy and Resource Saving Products

Guidance for pool cover sizing

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Introduction

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Throughout the bubble pool cover industry manufactures 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.

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What Causes Shrinkage?

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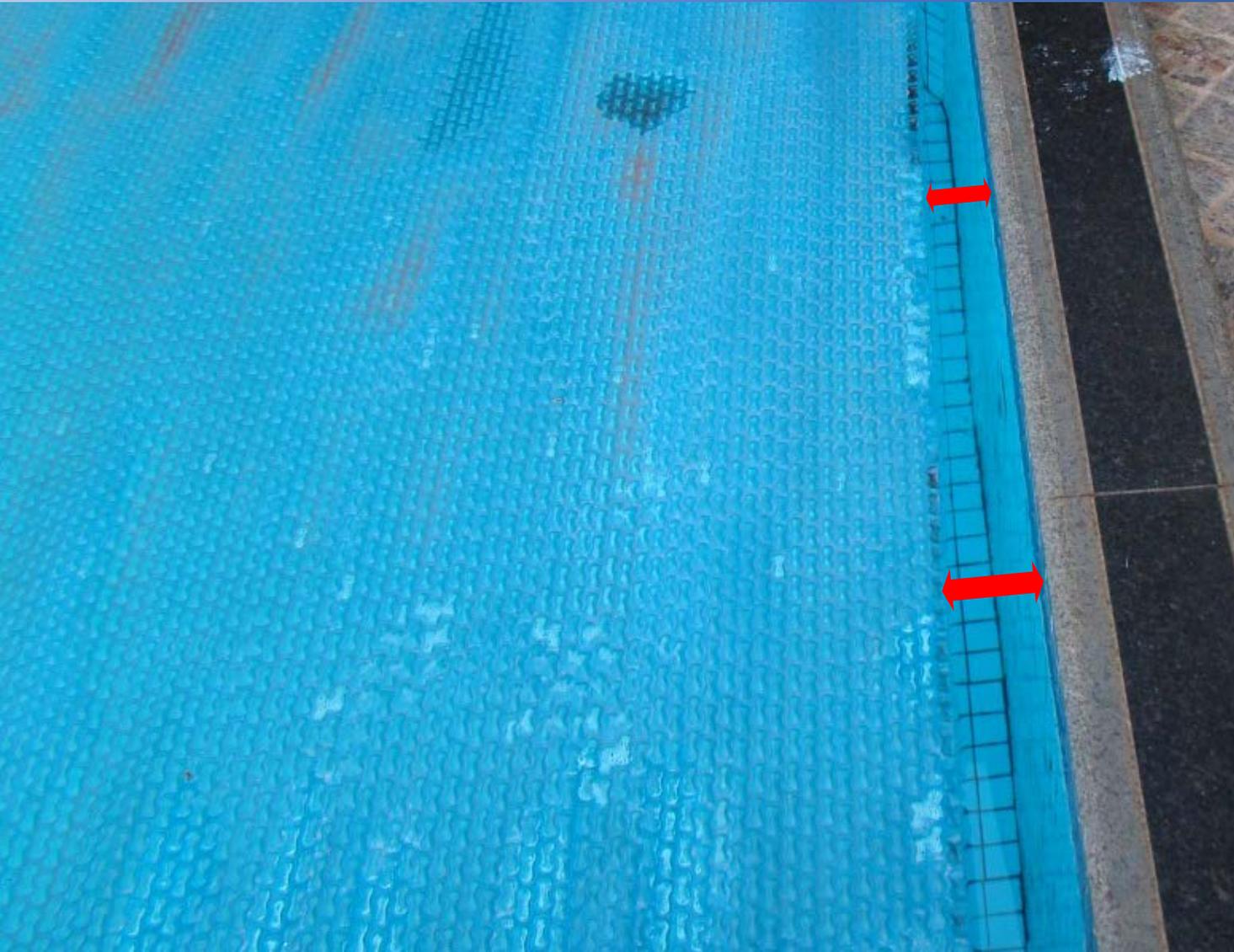
During the extrusion process, the polymers are placed under strain as they are processed through the production systems in their molten state. As the material is cooled, this residual stresses become 'frozen in'. Polymers naturally try to revert to their relaxed state by releasing tensions (Residual 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.

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How do it present itself on a pool?

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This process is seen on some covers installed on pools as a dimensional change most notable in the length of the material and is known as 'shrinkage'.

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How to prevent this issue?

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To help to minimise this, 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 this shrinkage and keep this 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.

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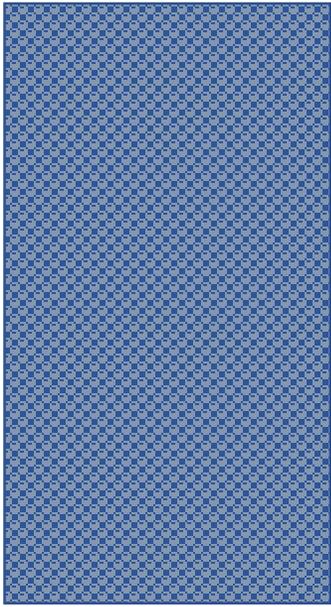
Guidence for over sizing cover designs

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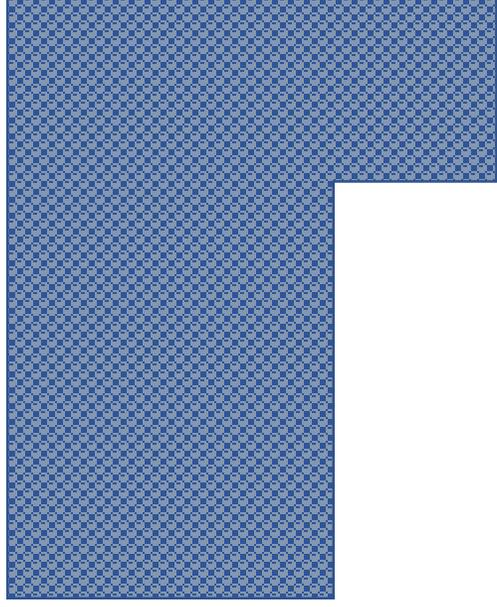
Plastipack understand that it can be challenging to manage the addition of the industry recommended 2%, when cutting covers to size. To aid with this we have created guide illustrations to advice on a number of common pool designs.



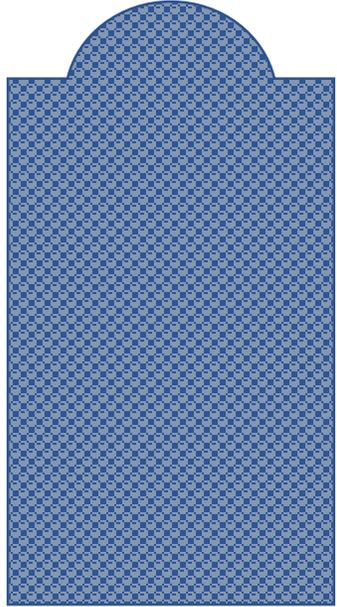
Kidney



Rectangle



L shaped



Roman Ended



Free Form



Oval

Guidence for over sizing cover designs

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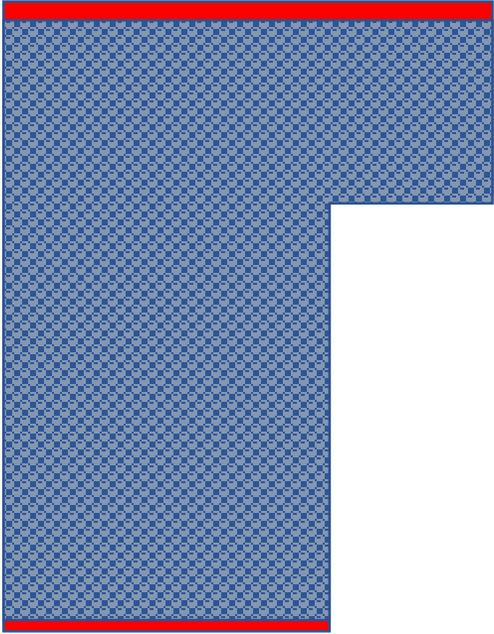
Sizing guide for common pool lengths					
Cover Size	Additional 2%	Cover Size	Additional 2%	Cover Size	Additional 2%
4m	80mm	8m	160mm	12m	240mm
6m	120mm	10m	200mm	14m	280mm



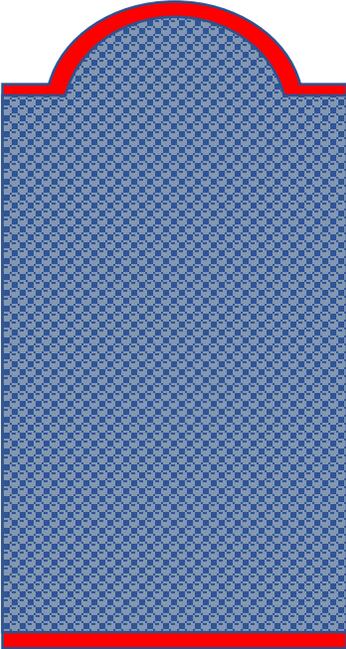
Kidney



Rectangle



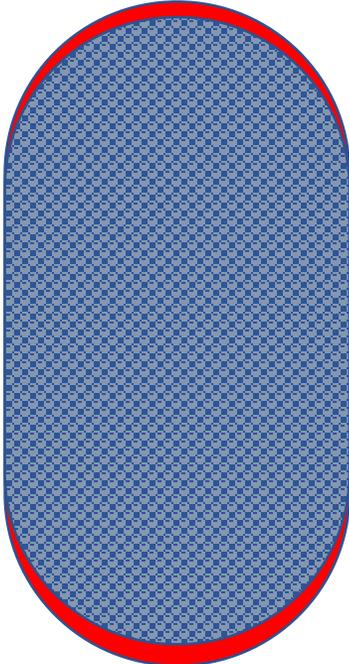
L shaped



Roman Ended



Free Form



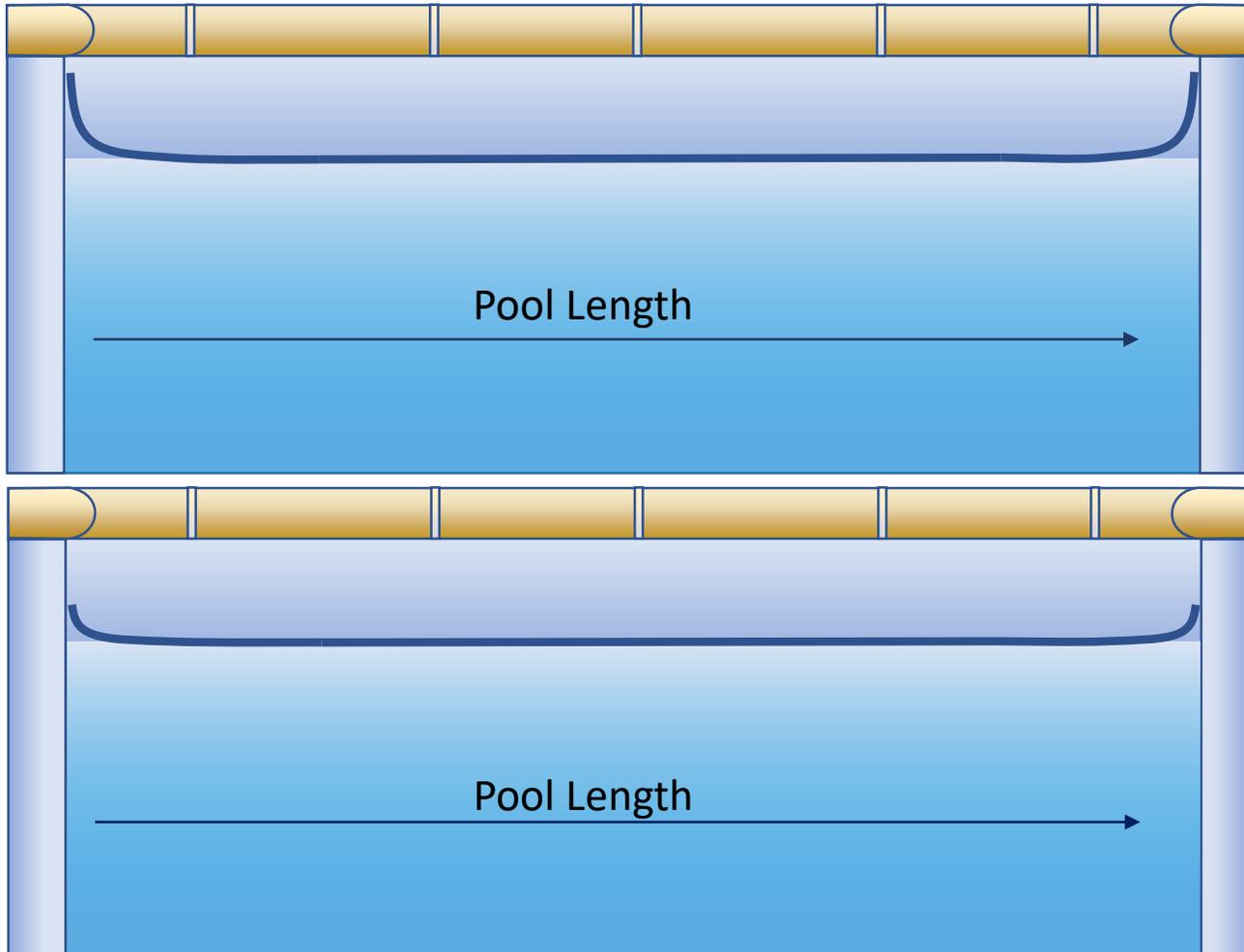
Oval

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Cross section of the overlap

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The 2% added to the length allows the material to sit slightly proud of the water at each end. This ensures a good covering of the pool without affecting the cover's lay flat or aesthetic.

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.

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Cutting around ladders

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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.



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Cutting around ladders

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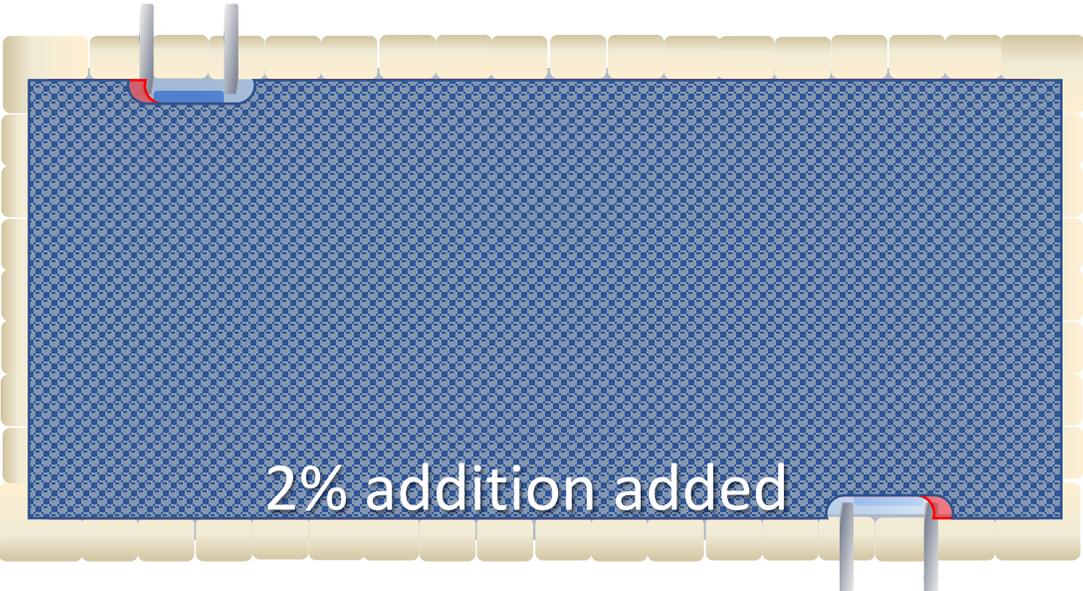


Image A: The Rounded cut prevents tear propagation should the material become caught on the ladder while being reeled on or off the pool.

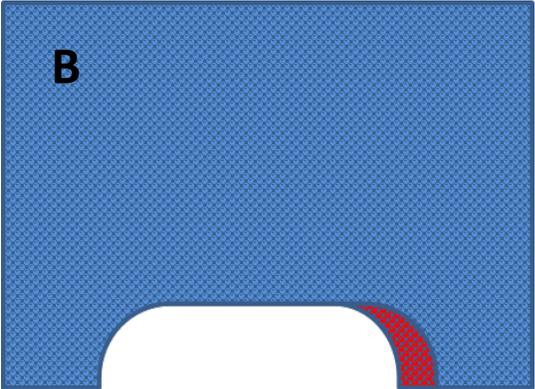


Image B: This demonstrates the small area (in Red) that may require trimming, without any harmful effects to the aesthetics and lay flat of the cover.

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Ladder hinges

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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.

Below 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 simple reinserted into the pool for use.



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