

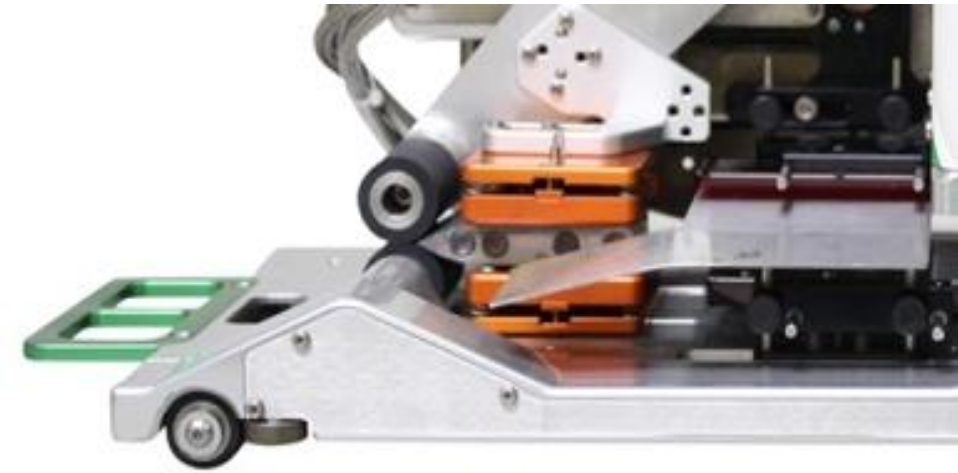
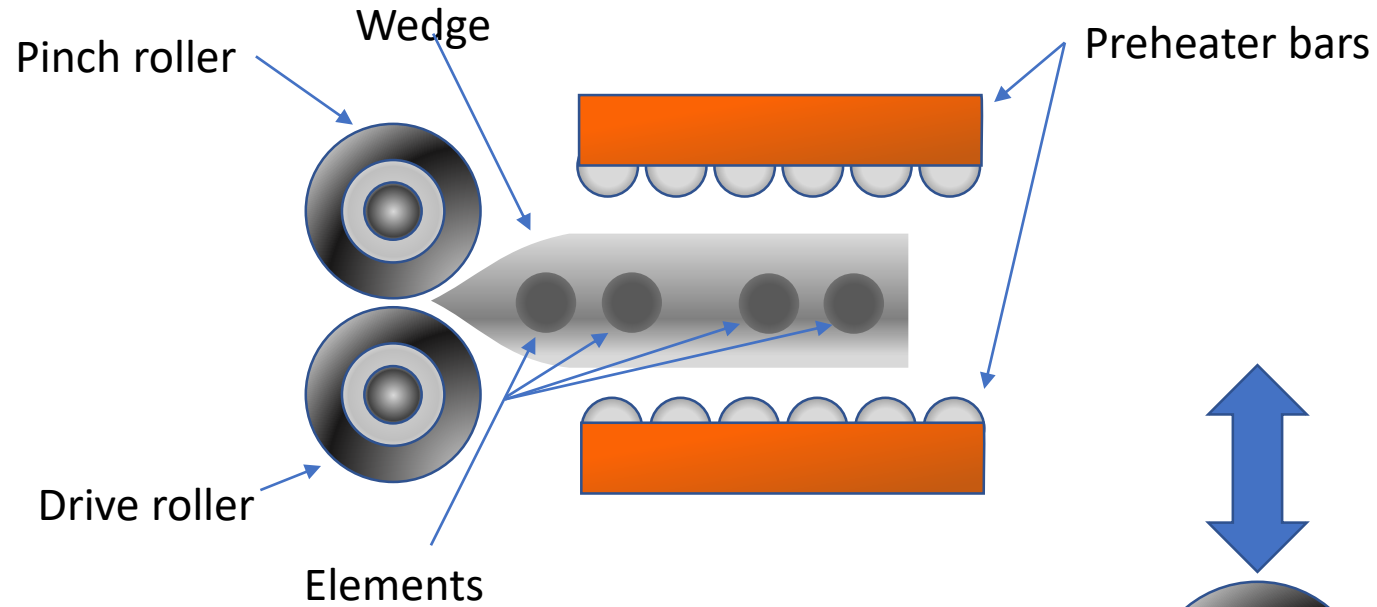


**PLASTIPACK LIMITED**

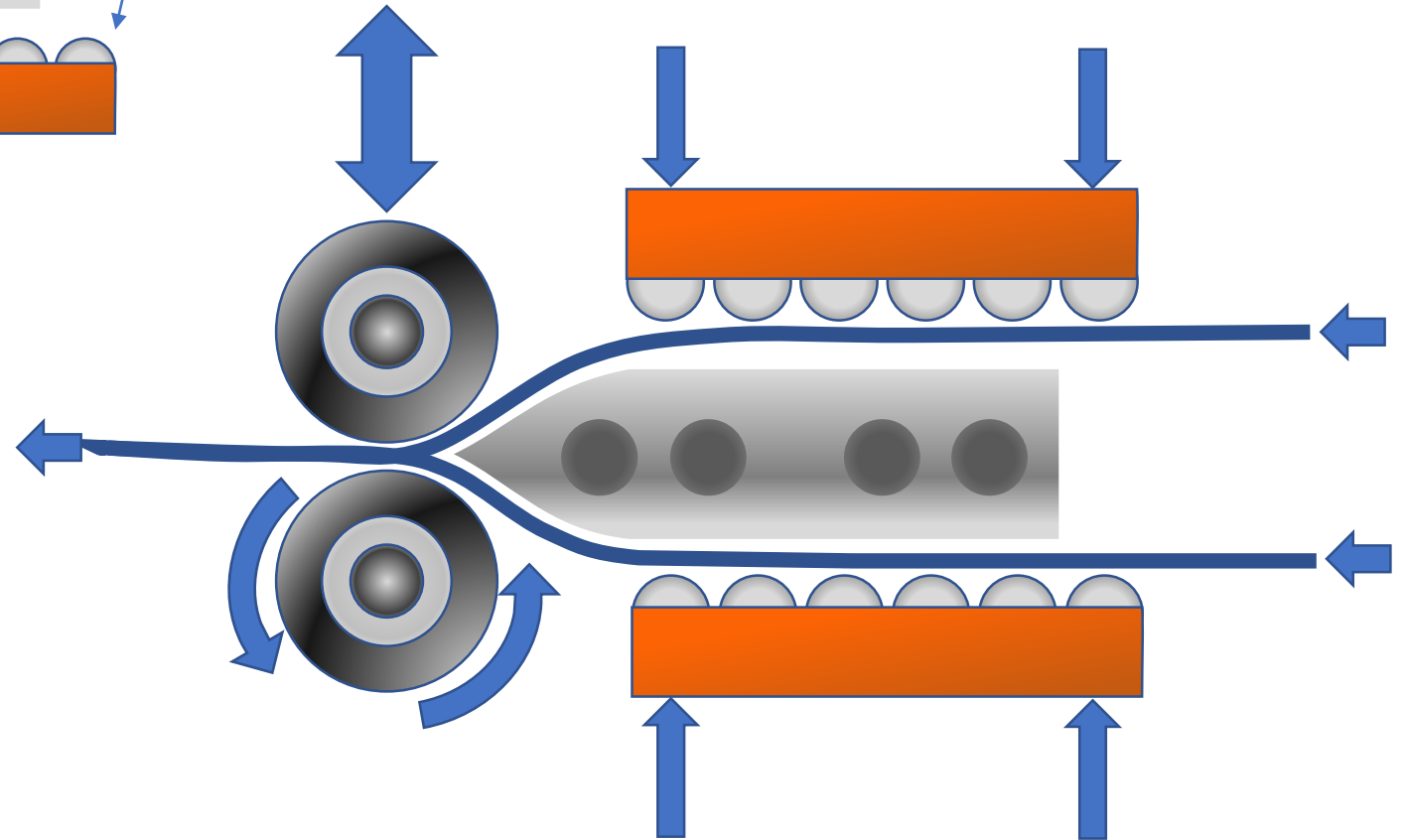
Manufacturers of Energy and Resource Saving Products

**Welding Guide**  
**26/09/2018 V2**

# Hot Wedge Welding



A hot wedge welder as its name suggest uses a heated metal wedge to pass heat to the two layers of material before compressing them together to form a permanent bond.



# Types of Welder

Figure 3.i: Pfaff hot wedge welders:

*The Pfaff welding machines are probably the most well known in the cover industry in the European market and can be run on the floor or in a track.*

*Initial cost: Moderate*

*Speed: Moderate top speed*

*Adaptability: Seam to seam and bubble to bubble. (Track and floor) see figure 2.*

*Running cost: Maintenance and replacements are quite costly.*

[Pfaff mobile hot wedge welder link](#)



Figure 3.iii: Miller Weldmaster “Triad” welders:

*This is the largest and most adaptable of the three welders the large base plate leaves space for extra guides that allow for a variety of welding styles for joining and cover finishing welds.*

*Initial cost: High*

*Speed: High top speed*

*Adaptability: Seam to seam, bubble to bubble, leading edge and hemming. (Track)*

*Running cost: Maintenance is easier and replacements are less costly.*

[Miller Weldmaster Triad machine link](#)



Figure 3.ii: Miller Weldmaster “Spec” welders:

*The Spec welder is the most similar to the Pfaff welding system. The main difference between the Pfaff and the Spec is the weight. The Spec is a larger machine and therefore heavier. However it does have the advantage on maintenance costs and speed. The larger wedge and optional use of a preheater bar (see orange blocks on images) allow for greater speed and ease when welding bubble to bubble.*

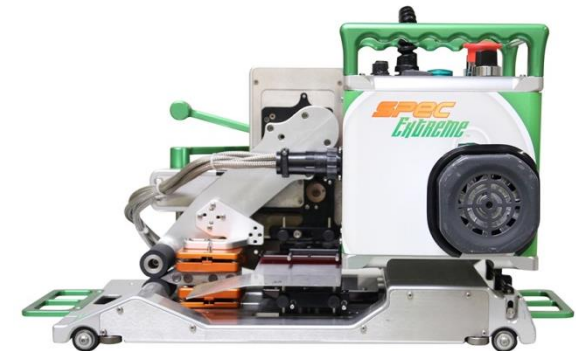
*Initial cost: Moderate*

*Speed: High top speed*

*Adaptability: Seam to seam and bubble to bubble. (Track and floor) see figure 2.*

*Running cost: Maintenance is easier and replacements are less costly.*

[Miller Weldmaster Spec machine link](#)



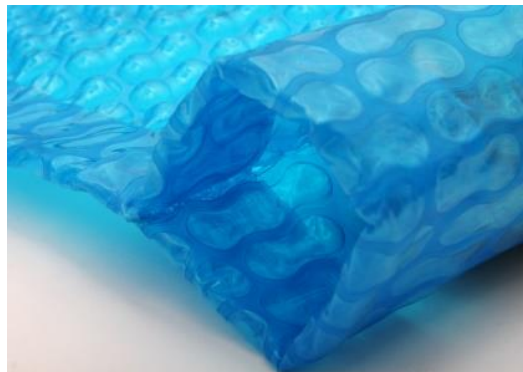
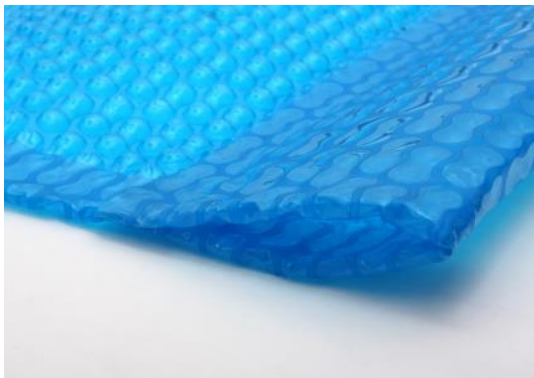
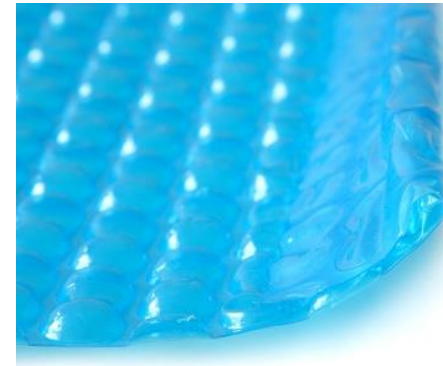
# Different types of finishing welds

As well as the overlay welds such as Bubble to bubble or seam to seam there are also a number of finishing welds that can be produced most easily with the Triad welding machine. (Figure 4)

Figure 4: Different types of finishing welds.

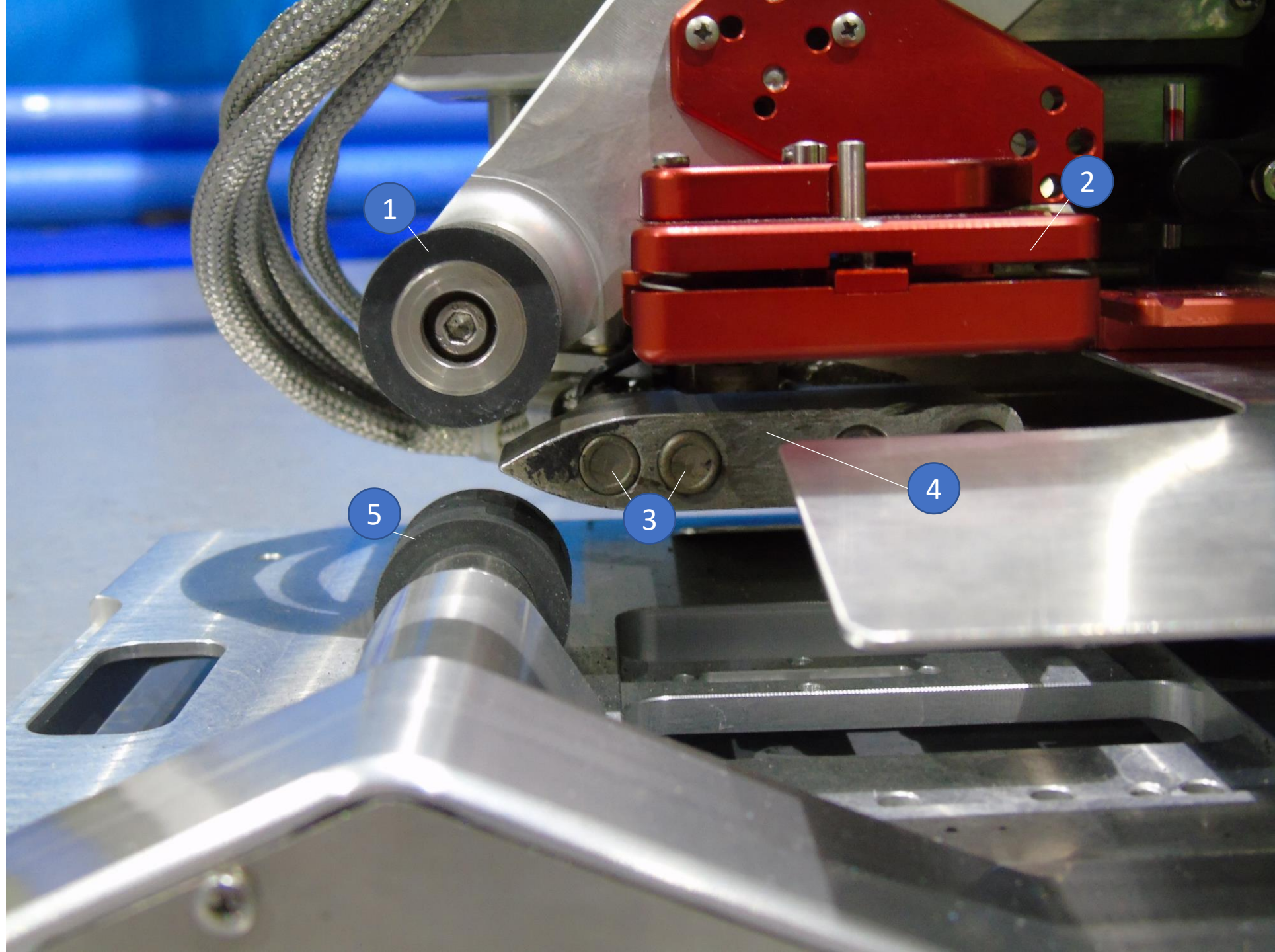
*Hem welds: Create a boarder (on rectangular covers) around the material for a decorative finish or eyelet reinforcement without the need for additional materials and processes.*

*Leading edge welds(hem with pocket welds): Allow for the creation of a tube (on rectangular covers) that can be used to fit in a floating segment for use as a leading edge.*



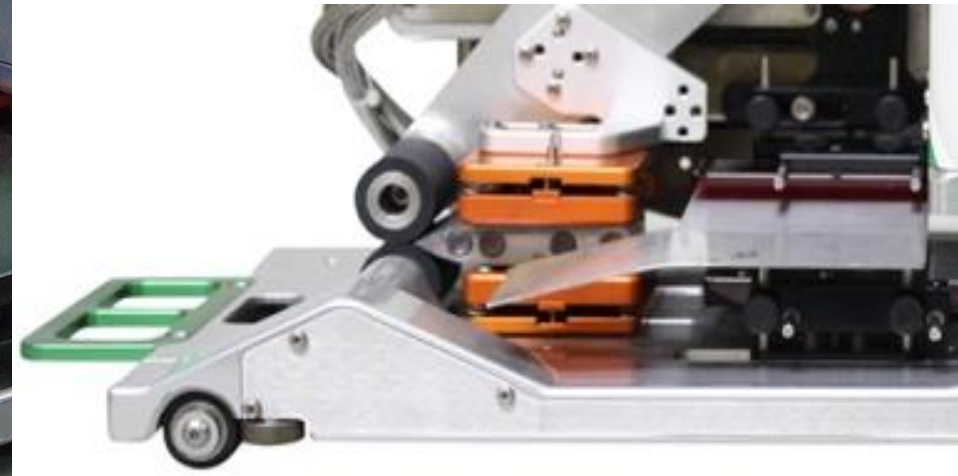
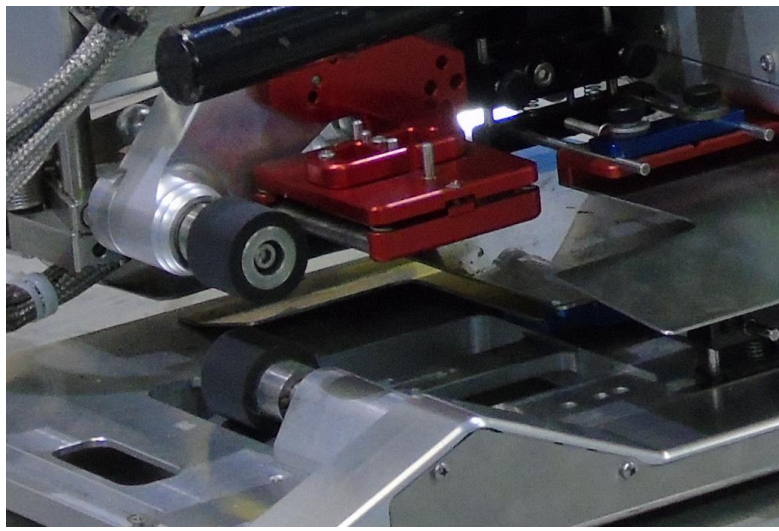


1. Pinch roller: Applies pressure to bond materials together.
2. Preheater bars: Hold the material along the full length of the wedge. This provides the ability to run cooler or faster.
3. Elements: Generate heat.
4. Wedge: provides heat transfer to the material.
5. Drive roller: Provides forward motion for the welder to move the welder along the track or pull material through static welder.





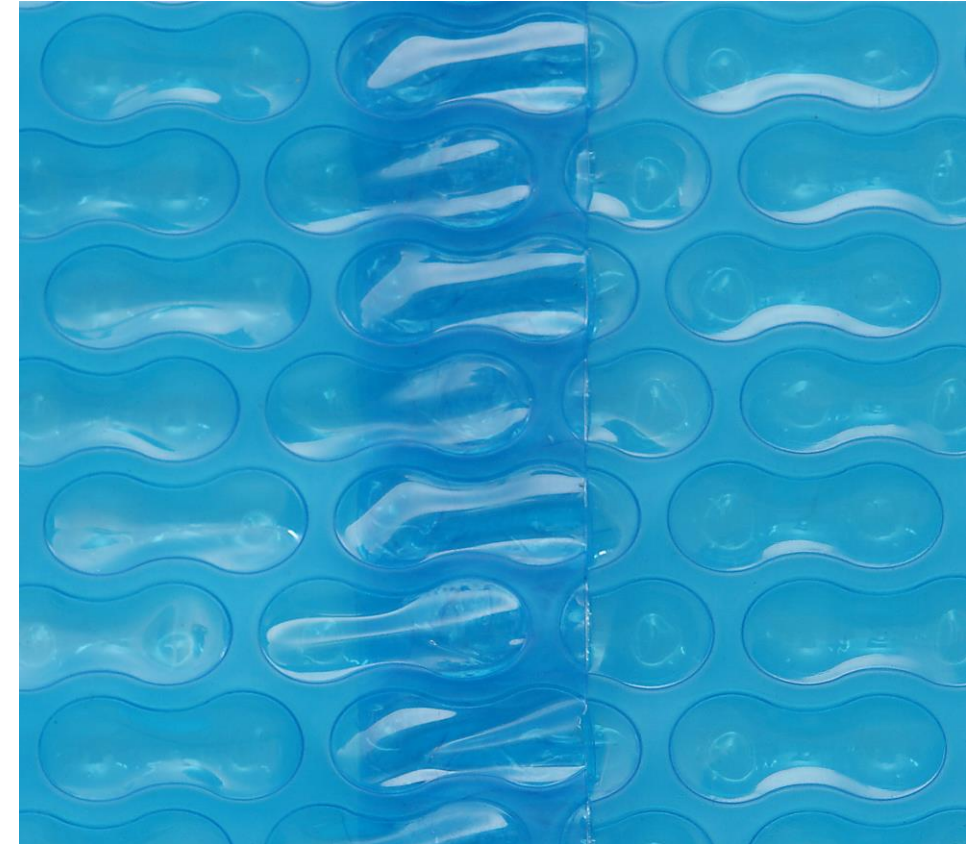
# Preheater bars



The Preheater bars are very useful for increasing welding speeds. They have the added advantage of assisting with bubble to bubble welding.

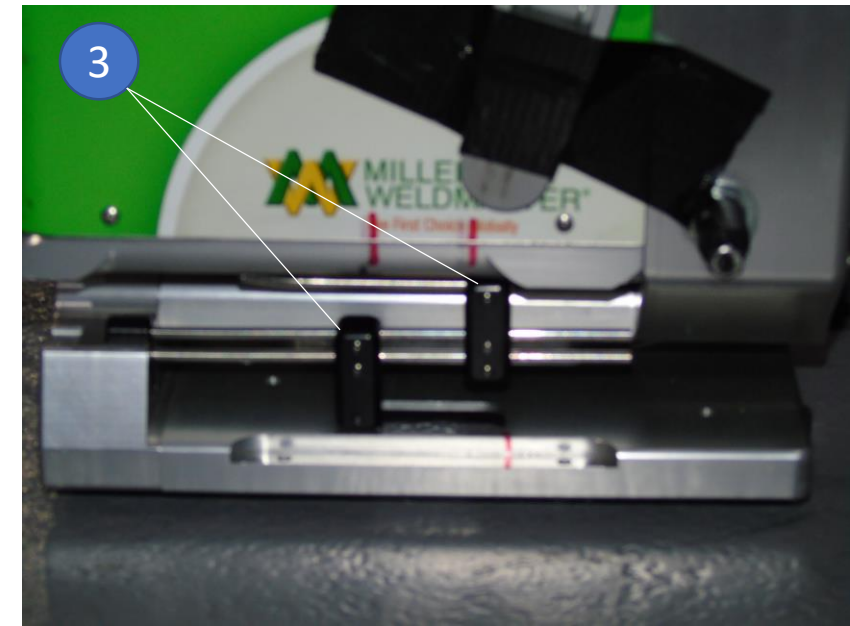
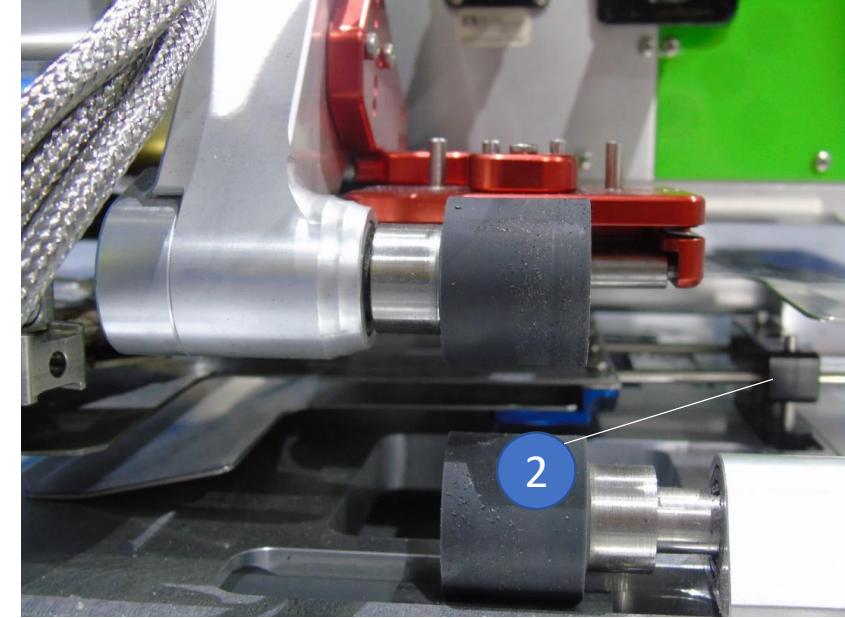
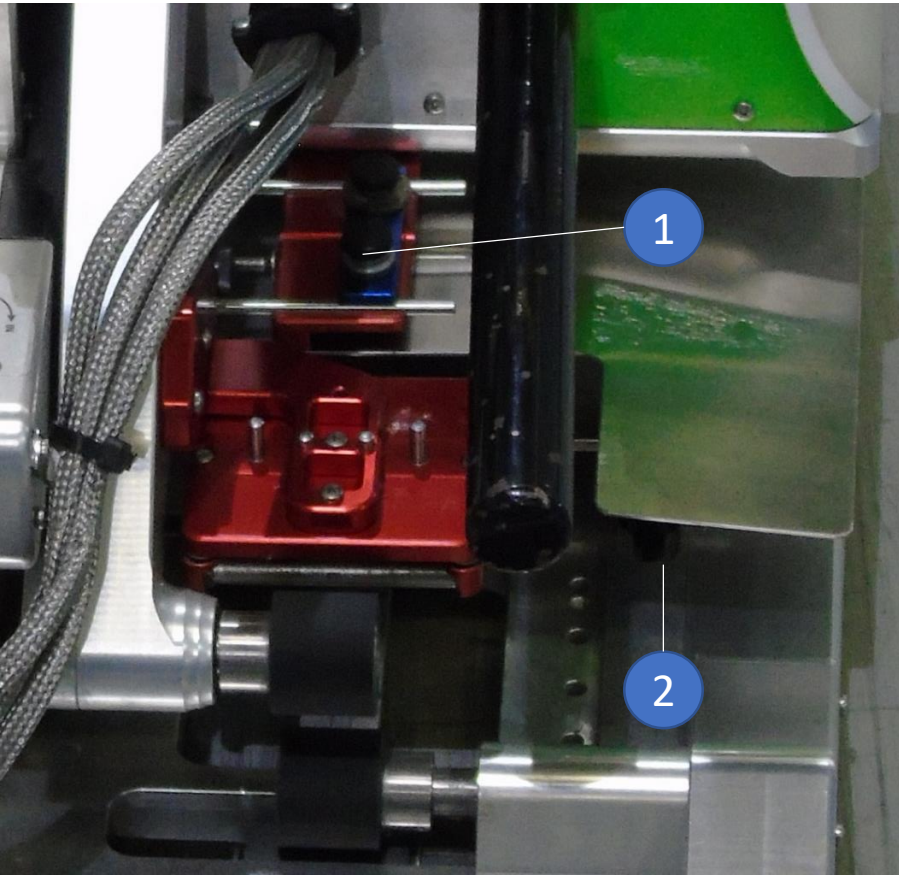
The Preheater bars hold the bubble to the wedge helping to soften and collapse the bubble prior to the pinch point. This results in a flatter weld, the seal can be further improved by slowing the welder or increasing the welding temperature.

When welding weld/salvage edges Plastipack preference is to run with only the top Preheater bar attached.



# Welding Guides

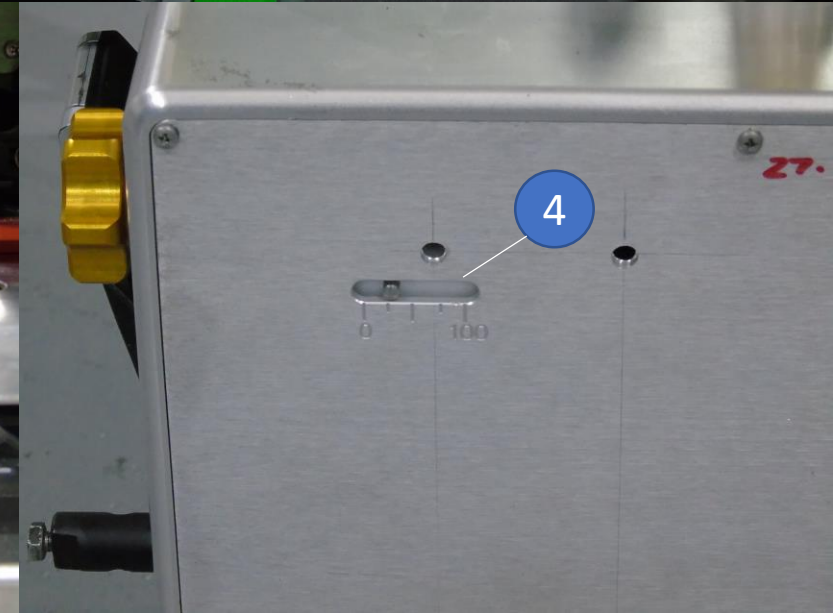
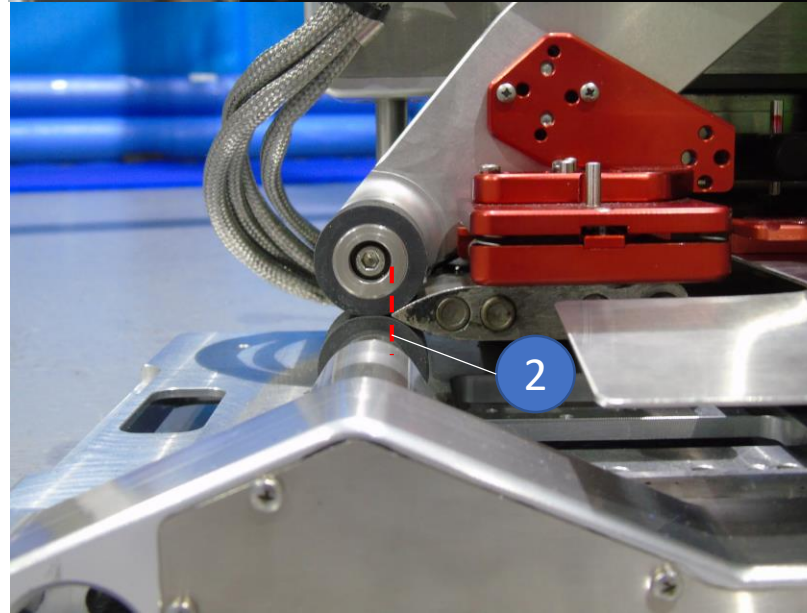
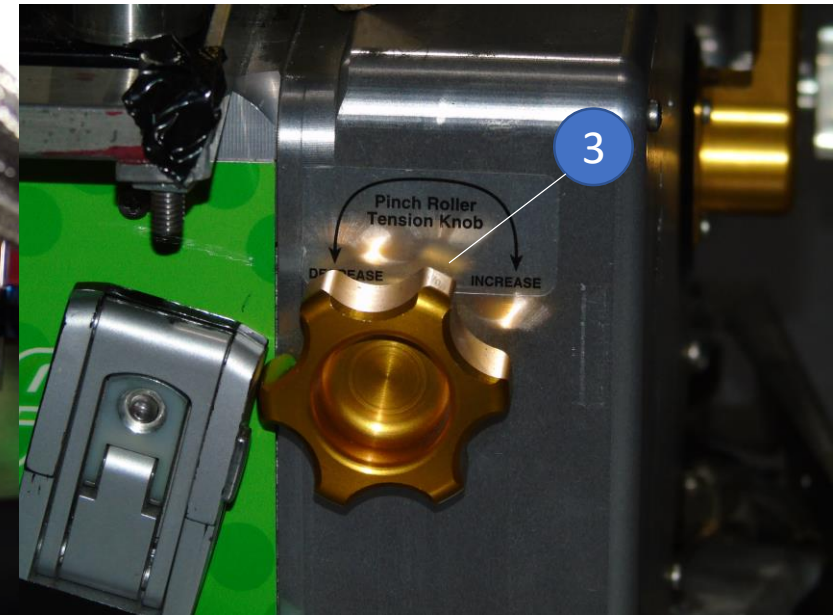
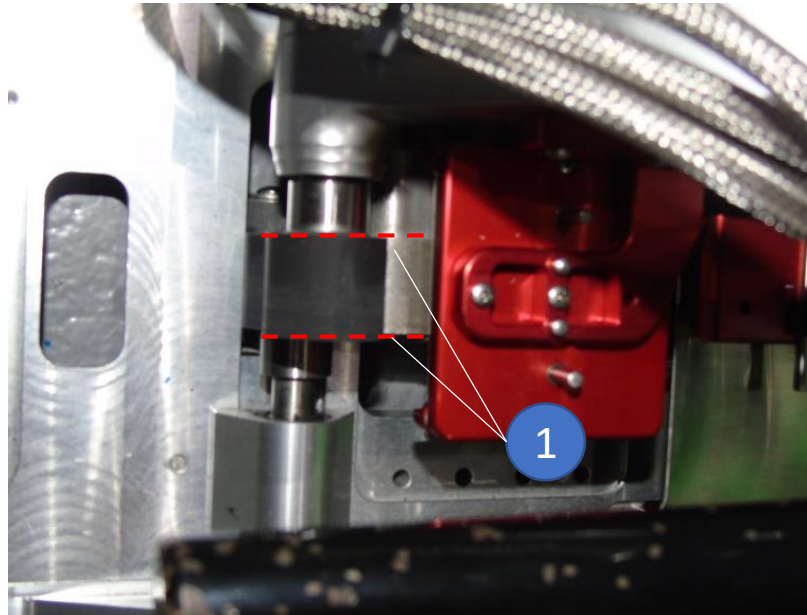
1. Top material Guide adjustment screws
2. Bottom material guide adjustment screws
3. Front material guides top and bottom.





# Pinch and welder alignment

1. Correct wedge alignment with rollers.
2. Correct wedge position with rollers.
3. Pinch roller pressure control.
4. Pinch roller control pressure gauge.



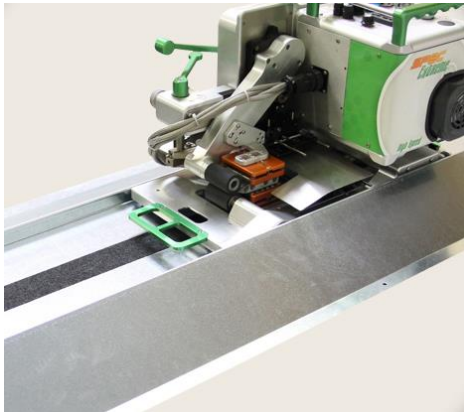


# Plastipack Welding Setting

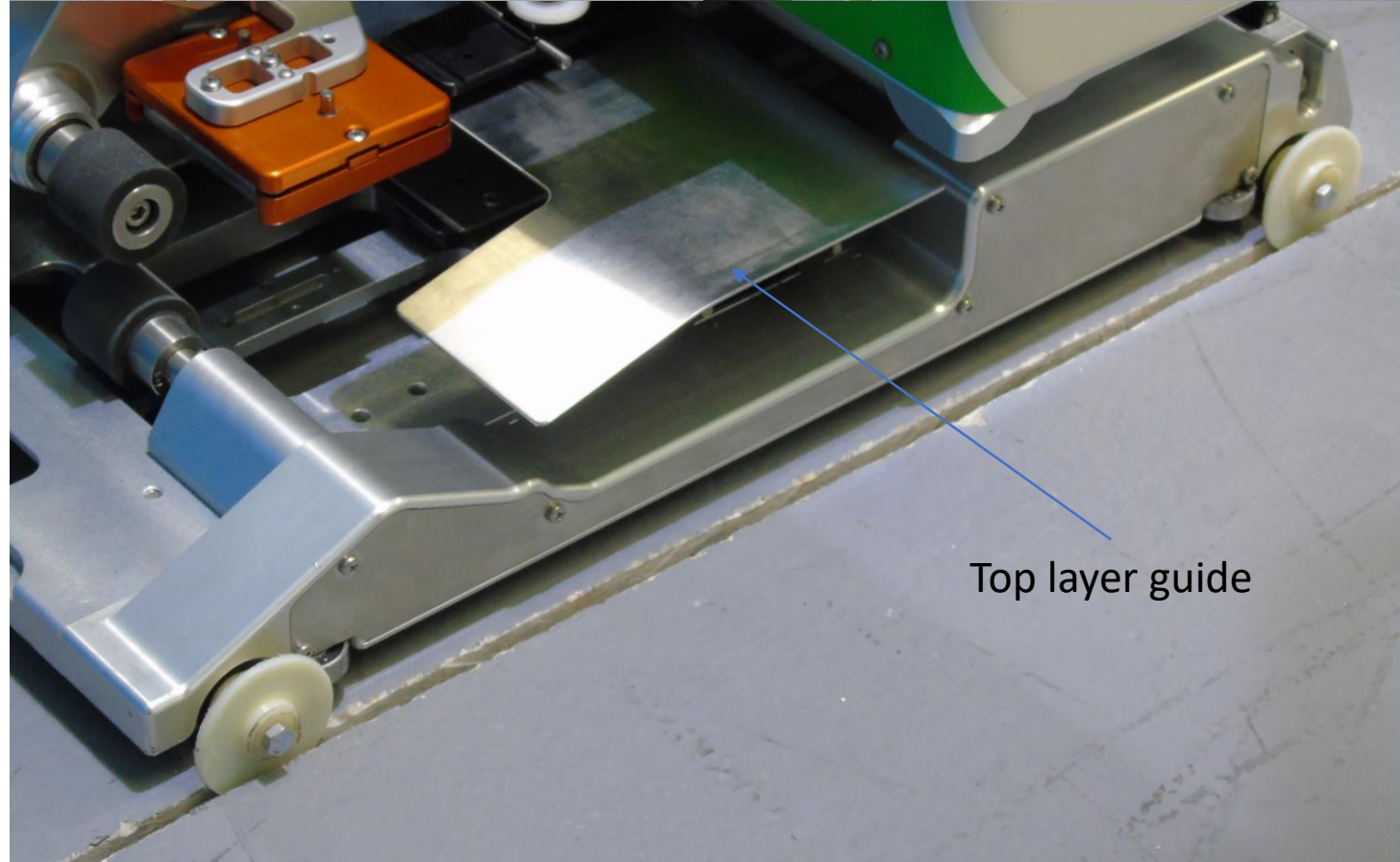
Material Thickness	Wedge temperature	Machine Speed	Pinch Pressure
300µm	510°C	50	30
400µm	515°C	50	30
500µm	530°C	50	30
600µm	530°C	40	30
Weave materials	530°C	45	30
VapourGuard™	530°C	45	30

# Tracking System

Most tracking systems consist of a tray the welder sits.



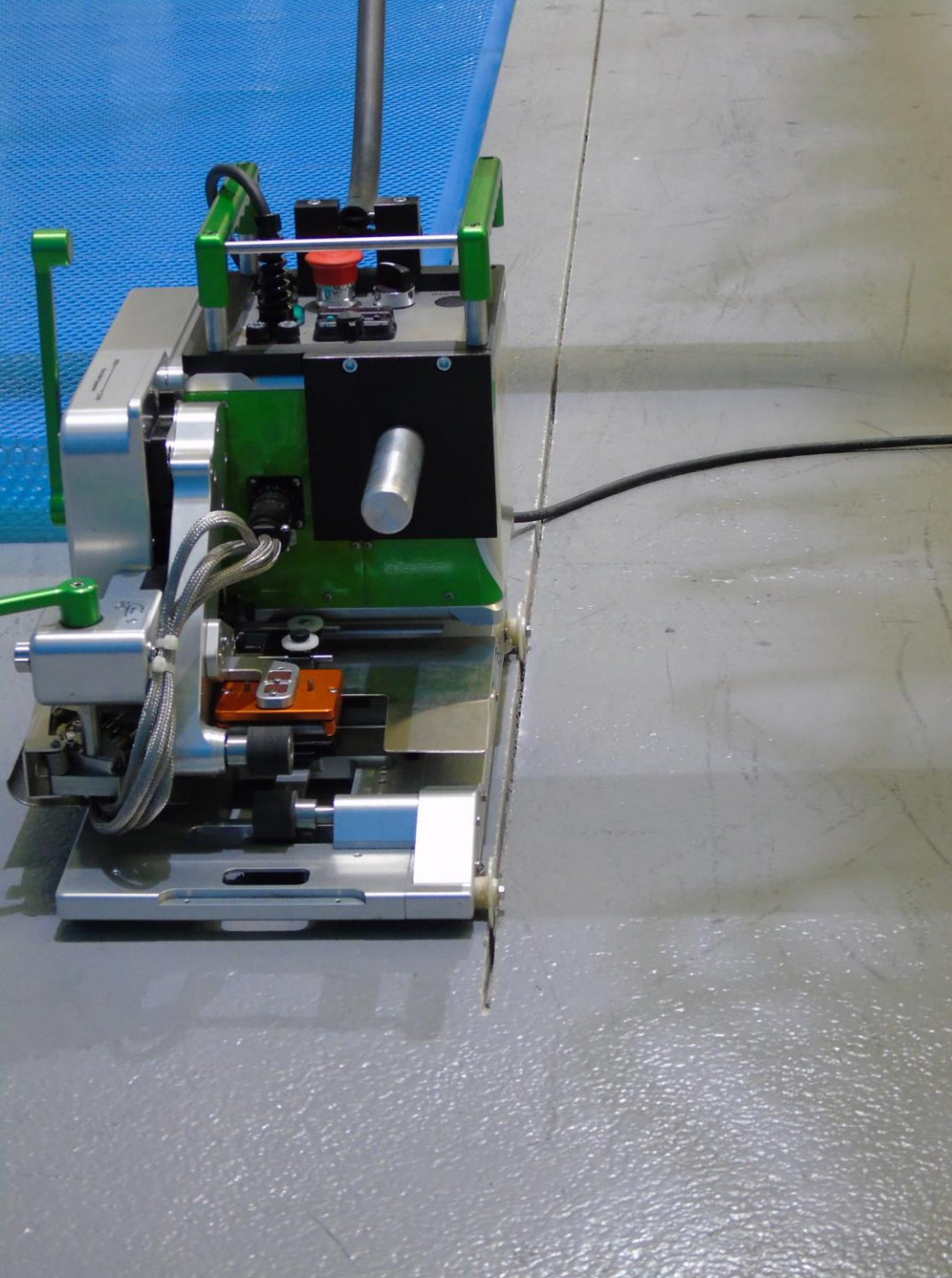
However Plastipack use a simple more cost effective approach of using two guide wheels that extend from the welders axels on the top layer side of the welder.





# Tracking Groove

The tracking guides run along a thin groove cut into the floor. Allowing the welder to move across the material with minor operator intervention.



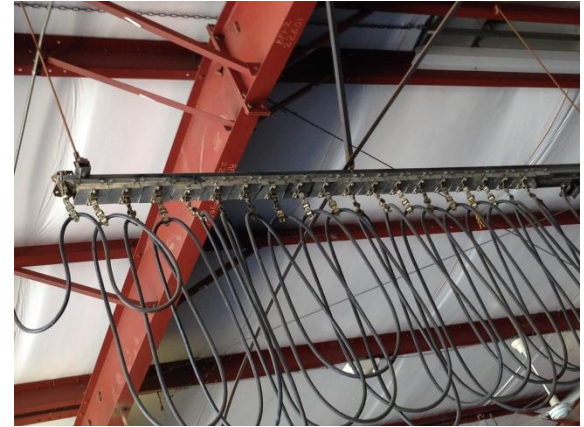
# Useful Accessories

## Festoon system:

For large cover production festoon systems are a neat solution for cable management. A festoon system consists simply of mobile hangers on a suspended trackway that can move the welder's power supply cable as the welder moves below during welding.

This has the added advantage of preventing the wire from producing drag on the floor that may slow it down while welding long lengths of material.

[Festoon system link](#)



## Eyelets:

When using eyelets metal can often rust and pit while on the pool. A good solution can be the use of clear plastic eyelets. It is important to ensure that the eyelet neck will be tall enough to provide a secure permanent fitting even through the bubble. Eyelets are secured with the use of a hand press that applies pressure to the two eyelet sections to permanently connect the two sections.

[Link for eyelets and hand presses](#)



## Clip attachment:

If eyelets are not desirable or you wish remove or relocate the clips when needed. There is a kind of clip known as a "holdon clip" that is a removable reusable solution that provides a strong attachment without piercing the material.

[Holdon clip link](#)







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Thank you

Manufacturer

[www.plastipack.co.uk](http://www.plastipack.co.uk)

Product Information

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