LINOLEUM FLOORINGS

Hot Welding for acoustic

Installation instructions

May 2020

General Information:

- This instruction is referred to acoustic Linoleum welding rod, suitable for Linoleum Silencio 19db / acoustic 19db and Acoustic Cork 15db
- For Welding the Tarkett Linoleum floorcoverings, please refer to separate sheet: "Installation of Linoleum"
- Tiles cannot be welded.

HOT WELDING (WITH TARKETT LINOLEUM WELDING ROD) IS RECOMMENDED FOR:

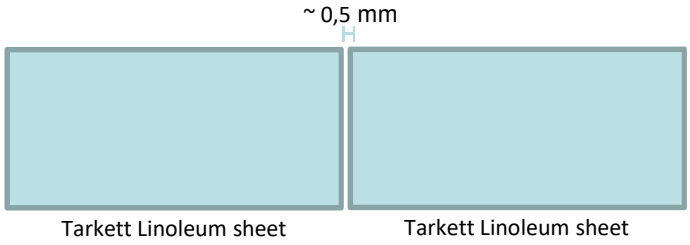
• Joins in order to prevent any penetration of water after the Tarkett Linoleum floorcovering has been laid.
• Underfloor heating
• Safety areas

LABELING:

1. GROOVING

1.1 Before to start

- Be sure the floor was glued at least 24h before grooving operation
- The distance between sheets after scribing, cutting and trimming of the edges has to be ~ 0,5mm **(Picture 1)**



Pic. 1

- Check instructions of tools manufacturers about use and maintenance of the tools in order to ensure proper quality of the welding:
  Put specific attention to the sharpness and shape of the blades of the groover and replace them when needed.

- **<u>Before to start to groove on installed flooring, make a grooving trial on technical scrap in order to set the correct depth of the device.</u>**

1.2 Groove the edges

The space between the two floor edges shall be preserved (~ 0,5 mm) in order to allow a smooth move of the guiding wheel and to ensure an equal grooving on both Tarkett Linoleum edges **(Picture 2).**

Pic. 2

For more precise and exhaustive information, please refer to Tarkett official installation instructions and the youtube video "How to lay Tarkett Linoleum flooring" on the link below:

https://www.youtube.com/watch?v=W8Uq5oPGxK4

The grooving can be done with different tools:

- Electric groover (preferable)
- Manual groovers
- Turbo MarmoGroover (North America Market)

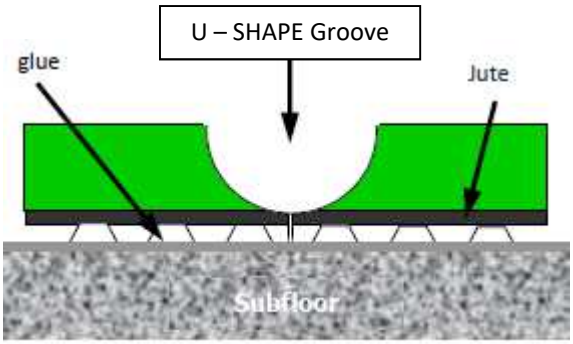
Electric Groover

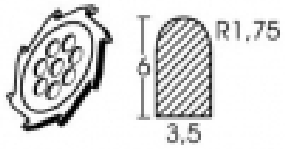
Manual Groover

Turbo MarmoGroover

Manual groover "Beetle"

Manual groover "Swift"





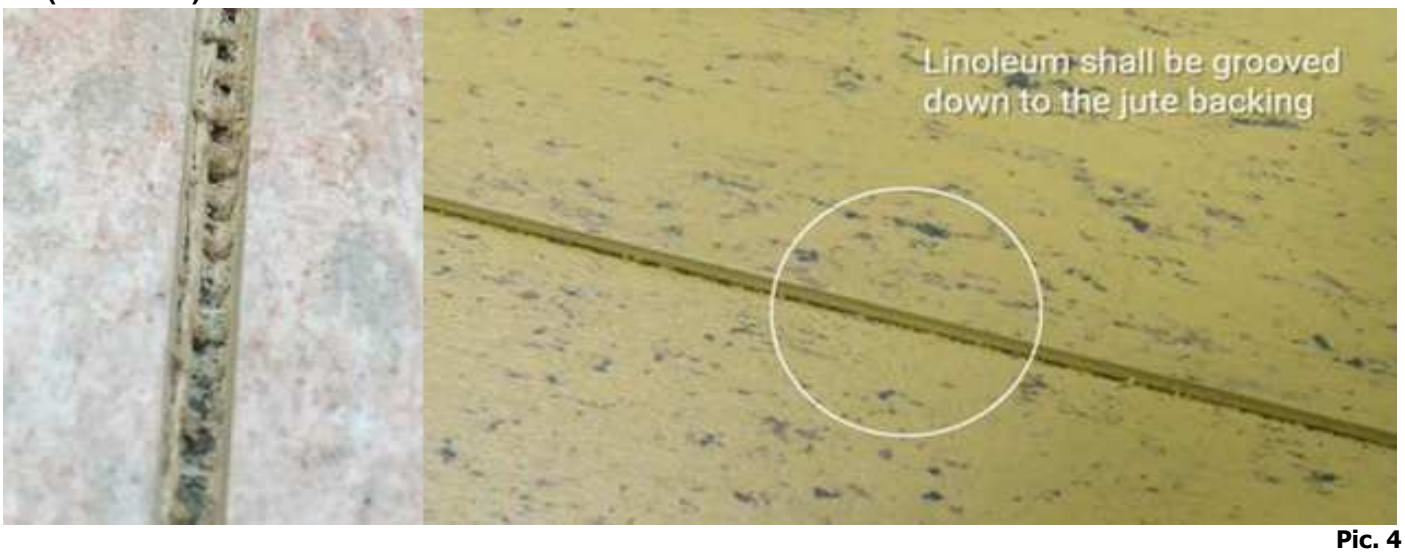
- Tungsten carbide tipped blade
- 110 x 3.5mm,
- Trapezoidal profile

The <u>Tarkett's Linoleum must be grooved down till the jute backing</u>, in order to ensure the ultimate adhesion between Tarkett welding rod and Linoleum floor **(Picture 3).** Manual groover shall be used at the end near the wall, where the automatic groover cannot get access **(Picture 3).**

Pic. 3

1.3 Results

- The grooving is around 3,5mm wide;
- Both edges must be grooved;
- The grooving has to be centred between the linoleum sheets and jute totally exposed **(Picture 4).**



Pic. 4

THIS STEP IS CRUCIAL TO ENSURE THE ULTIMATE BONDING BETWEEN TARKETT LINOLEUM AND TARKETT LINOLEUM WELDING ROD.

What we should not do:

OK

- Correct depth (till the jute)
- Groove centered
- Ultimate adhesion between Tarkett Linoleum and Welding Rod

NOK

- Incorrect depth (too shallow)
- Low bonding

NOK

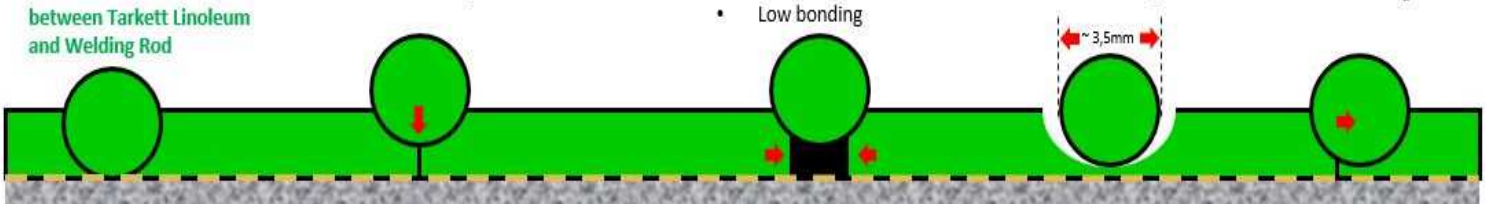
- Incorrect width (space between Tarkett Linoleum sheets too wide)
- Hard to fill
- Low bonding

NOK

- Incorrect width (grooving too wide)
- Hard to fill
- Low bonding

NOK

- Offset grooving
- Jute not exposed
- Low bonding



Grooving not deep enough

The grooving is not deep enough. This causes no adhesion between Tarkett Linoleum and Tarkett Linoleum welding rod.
Follow **Trouble shooting guide** to know how to deal.

Grooving too deep

The grooving is too deep and the Tarkett Linoleum welding rod cannot fill the entire space of the grooving.
Follow **Trouble shooting guide** to know how to deal.

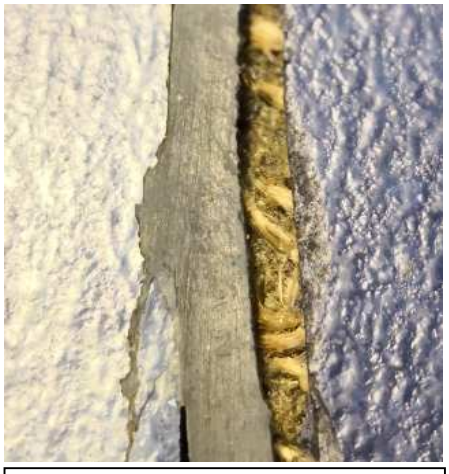
Off-center grooving

An off- center groove will result in the Tarkett Linoleum welding rod pulled away from the edge. Follow **Trouble shooting guide** to know how to deal.

No grooving

No adhesion between Tarkett Linoleum Welding Rod and Tarkett Linoleum edges. Follow **Trouble shooting guide** to know how to deal.

Cutted grooving



The grooving is made manually only with knife, without any groover tool. The groove is irregular and the jute is not exposed.
Follow **Trouble shooting guide** to know how to deal.

All of the situations previously described will result in gaps and voids along one or both sides of the seam that allow moisture and contaminations (dust and debris) to go inside the seam, with the consequences of:

- ***Soiling;***
- ***Water and moisture infiltration;***
- ***Detachment from the subfloor or from backing thanks to glue softening due to moisture infiltration;***
- ***Low adhesion between Tarkett Linoleum and Tarkett welding rod;***
- ***Stains on the floor surface and joints;***
- ***Bad visual aspect;***
- ***Premature wear.***

2. WELDING

2.1 Material storage

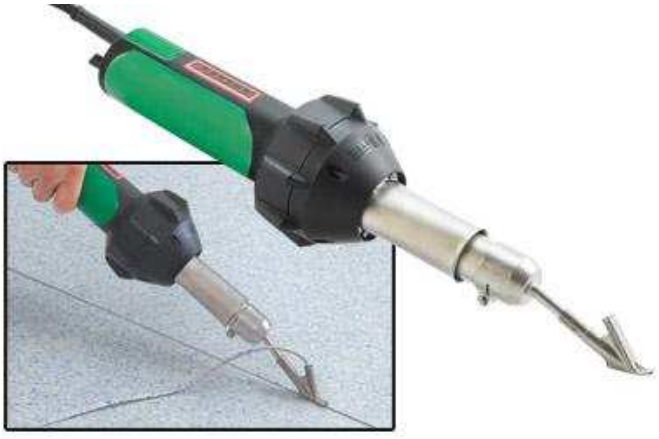
➢The Tarkett Linoleum welding rod shall be stored between 0°C and 50°C.
Put the boxes in the same installation room 24 hours before welding.
➢The usage shall be above 17°C
➢If the material is stored at temperatures and humidity different from those suggested by Tarkett, the mechanical properties may not be guaranteed.

2.2 Before to start

➢Clean the floor, eliminating all dust and debris with vacuum cleaner (preferable) or sweep.
➢The grooving must be clean from any contaminations particles.
➢Check the instructions of the welding machine manufacturers about use and maintenance to ensure a good quality of the welding.

2.3 Selection of welding machine

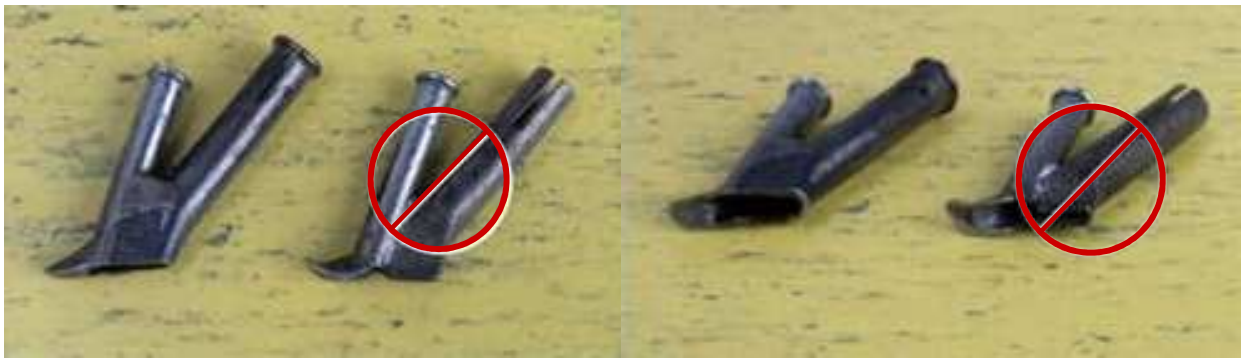
A - Manual welding machine



B - Automatic welding machine

➢ *A – Manual welding machine*

- Nozzle selection **(Picture 1)**:
  Do not confuse the nozzle for Linoleum and the nozzle for PVC

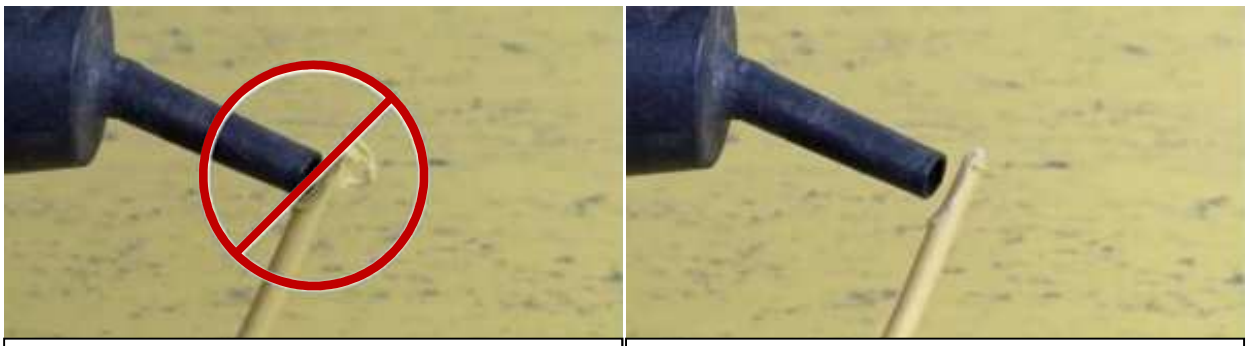


Pic. 1

After the nozzle selection, the right temperature shall be set.

- Temperature setting:

  Set the manual welding gun between 400°C and 450°C
  The setting of the welding machine could be slightly adapted according to ambient temperature and type of equipment.
  A good way to preset the correct temperature is to concentrate the heat flow (without nozzle) on the Tarkett Linoleum welding rod and see how is melting **(Picture 2)**: the welding rod should melt slightly and not get burned (overflowing or becoming dark).



NOT OK – too hot	OK

Pic. 2

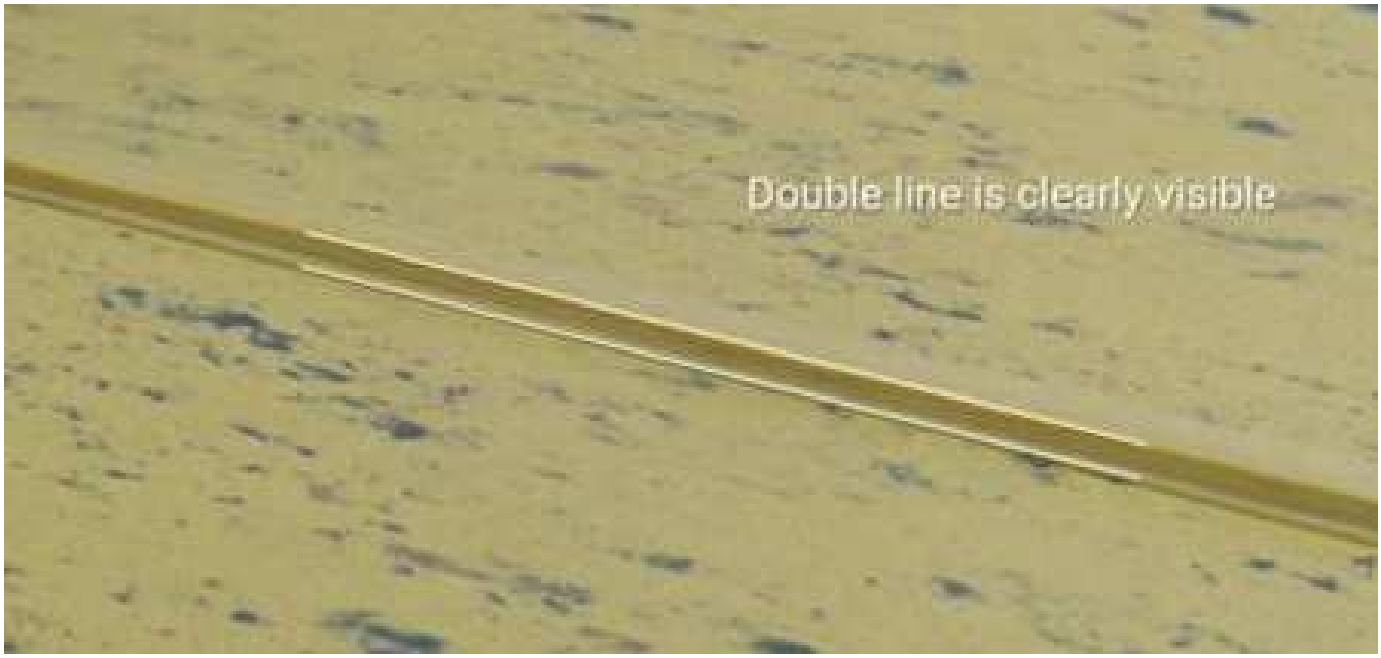
2.4 Weld the Tarkett Linoleum welding rod

A sturdy and durable weld is obtained by the correct combination of:

- **Temperature;**
- **Speed;**
- **Position of the nozzle (the rear of the nozzle must be parallel to the Tarkett Linoleum floor) (Picture 3);**
- **Downward pressure;**

Pic. 3

In order to ensure that Tarkett Linoleum welding rod reaches the jute at the bottom of the groove, it shall be melt properly, creating bevel edges (the shoulders of the Tarkett Linoleum welding rod) melted as shown in the **picture 4:**



Pic. 4

After the first 50cm, check the weld adhesion: push the welding rod side to side and check if it sticks on the edges. (Could be better on an off-cut part).

➢ *B – Automatic welding machine*

Settings of speed, temperature and air flow of the machine:

- Air flow (if is settable) = ~ 75%
- Temperature = between 400°C and 450°C
- Speed: from 3m/min to 4m/min
- Exhaust pipe flap = **OPEN**
  (under some circumstances can happen that the welding rod sticks to the wheel machine. In this case, is suggested to close one exhaust pipe with a screw or both exhaust pipe with the flap as is showed in the **Picture 5** below:

Flap Closed Pic. 5

Due to huge number of automatic welding machine on the market, these parameters can only be a first recommendation for the installers and should not be taken as fixed values.
<u>Please perform always some trials before to start the operation and please refer to the aesthetic aspect show previously in the Pictures 3 and 4 in order to ensure an ultimate welding.</u>

Refer also to manufacturers guide since the settings of the automatic welding machine could be adapted for different ambient temperature.

2.5 Results

OK	NOK	NOK
		
		
		
Bevels are visible on both sides. This means that welding rod is melt properly (correct temperature and welding speed). Good visual aspect, good adhesion between Tarkett Linoleum and Tarkett Linoleum welding rod.	Bevel on both sides of the grooving are not visible.The bevel are not melted properly (welding speed too high or temperature too low). Bad Adhesion between Linoleum and Welding Rod	Excess of bevels on both sides. They are too melted (temperature too high or welding speed too low). Bad visual aspect and difficult to cut.

3. TRIMMING

3.1 Before to start

- Check the sharpness of the blades as they are subject to wear and shall be mantained regularly.

The trimming operation (cutting of the excess material) could be done with different knives, the most used are **(picture 1)**:

Quarter-moon knife

Mozart Knife with Linoleum 0,7mm trimming guide (slider)

Pic. 1

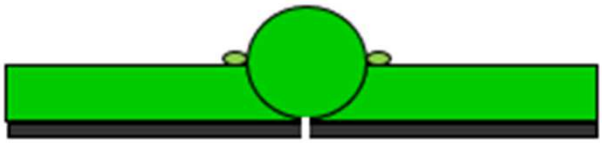
3.2 First cut

Perform the first trim approximately 5/6minutes after welding (welding rod is lukewarm).
If you are using the Quarter-moon knife, use the slate (trimming guide).
If you are using the Mozart knife, use the 0,7mm trimming guide (slider); carefully check the cutting agle as is showed in the **(picture 2 below)**.

<u>In both options, the right left over quantity allow to perform in the easiest way the second and final cut</u>

Pic. 2

The trimming:



Start from the welding rod properly melted inside the grooving.

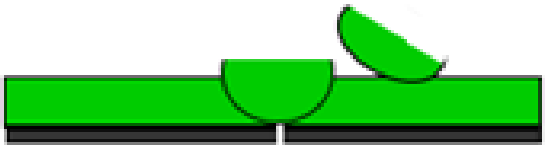
First trim with Mozart knife (or similar) and wedge before cooling down.

3.3 Second cut

Approximately 5 minutes after the first cut (10 minutes from the welding operation), perform the second cut.
If you are using the quarter-moon knife, remove the slate (trimming guide).
If you are using the Mozart knife, remove the 0,7mm trimming guide (slider).

Trim the remaining Tarkett Linoleum welding rod with the second cut.

The trimming:



Starting from the first trim with Mozart knife (or similar) and after waited the cooling down of the welding rod

Perform the second trim with Mozart knife (or similar) removing the 0.7 Lino slider.

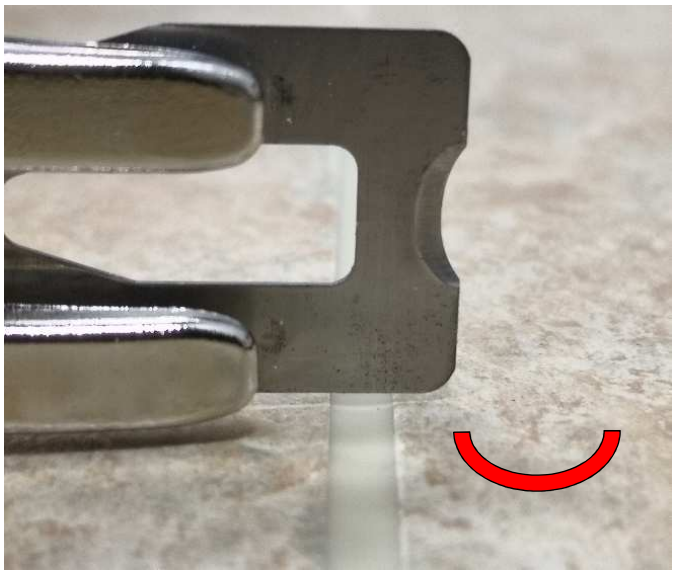
3.4 Results

The surface between welding rod and the floor is perfectly flat as indicated in the **picture 3:**

Pic. 3

Possible mistakes:

- ***Do not perform the first and second cut immediately after the welding operation when the welding rod is still hot, because this create a concave shape and a possible bad aestethic result (Picture 4);***



Pic. 4

- ***Trimming has to be performed with quarter-moon or Mozart knife. No other knifes are allowed;***
- ***Usage of not sharped blades will result in a very bad visual aspect (Picture 5).***

Pic. 5

Wait at least 24 hours to use the floor after welding.

TROUBLESHOOTING

- The welding rod is not well fixed in the joint:
Temperature is too high or too low. Downward pressure is too light. Welding speed too fast.

- Eliminate poor welding:
Adjust the temperature of the gun and practise on an offcut of the floorcovering.
Weld the joint paying attention to temperature, pressure and speed.

- The welding rod has failed to fully weld the joint:
Could come from Varying speed when welding with the hot air gun (too fast).
Remove the loose sections and weld again, starting and finishing at a sound section.

- The floorcovering is burnt or shiny alongside the joint:
Welding temperature is too high, welding speed is too low, hot air gun used with an incorrect angle, or wrong type of hot speed nozzle is used.

- After levelling, the filler stands proud, curves inwards or is hollow:
Trimming level was not carried out in two stages.
Trimming level was carried out too soon (welding rod was too hot). The groove was too deep.