Version2

Machine manual

Foam Cutter - PROXXON THERMOCUT

Version overview:	
1.0	General document
2.0	Revision and editing

Version2



Introduction 3
Overview Picture 3
Safety rules and regulations 4
Required knowledge before operation 4
Materials and build specs 5
Startup and Shutdown process 7
Startup 7
Using the machine 7
Shutdown 7
Maintenance 8
Common issues and fixes 8
Appendix 9

Version2

Introduction

The PROXXON THERMOCUT is a foam cutter. It can cut Styrofoam in perfect straight pieces, on angles or in any way needed.

This document serves as an overview of the setup, use and quick fixes to operate the foam cuter safely

Overview Picture



(1) On/Off switch
(2) Level knob
(3) Switch material knob
(4) Information for level knob
(5) Translation knob
(6) Rotation knob
(7) Wire tightening knob

Version2

Safety rules and regulations

Personal safety equipment:

- Should wear mask
- Highly advised the use of safety glasses and gloves
- Have the fume extractor on

DO NOT:

- Touch the wire whilst the foam cutter is on/has been on.
- Cut with loose wire.
- Replace wire while the machine is on.
- Use the machine on other materials until you have researched if the fumes are dangerous or if it's even possible.

Do:

- Let the makerspace worker that you are operating the machine
- Use safety glasses whilst using machinery
- Use this machine one person at a time.
- Turn off the machine when not in use.

Required knowledge before operation

The person using this machine must:

- Be able to operate the fume extractor (ask Marketplace worker if you don’t know) to ventilate the room and rid of any dangerous fumes.
- Have researched if the material can be cut via this method.
- Have researched if the fumes from cutting the material are harmful and if a mask must be worn.
- Understand the dangers of working with a hot element and handle it with caution.

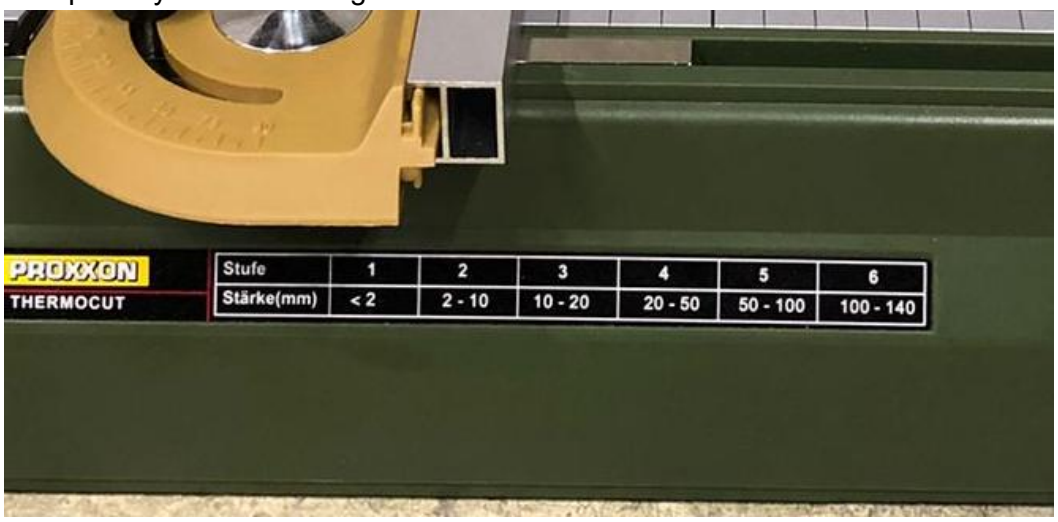
Version2

Materials and build specs

The intended materials to cut using the hot wire include **Styrofoam** and **thermoplastic materials**. It can also cut thin paper or any other easily burnable material, but research must be made before do so.

Styrofoam size:

- The thickness of Styrofoam has a suggested limit of 140mm.
- For different thicknesses (Stärke) you must adjust the dial to levels (Stufe) 1-6 for optimally smooth cutting.

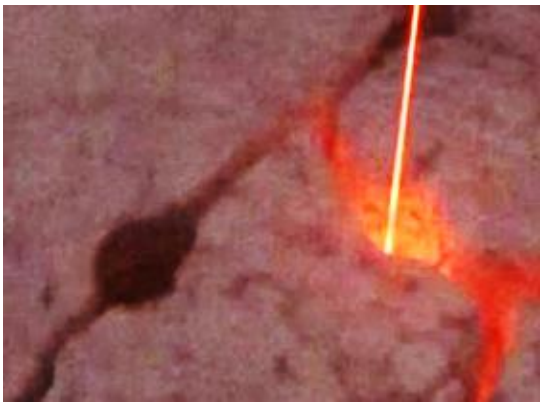


Platform area:

- 390x280mm

Speed:

- Test this out for yourself with a test piece.
- If you hover too long at one spot or you are too slow, the plastic will just melt without actually getting close to the wire. This causes holes as seen in the image below.



- Cutting too fast can be seen by a less smooth surface after the cut. Usually in the form of lines. (seen in image bellow).



Version2

Startup and Shutdown process

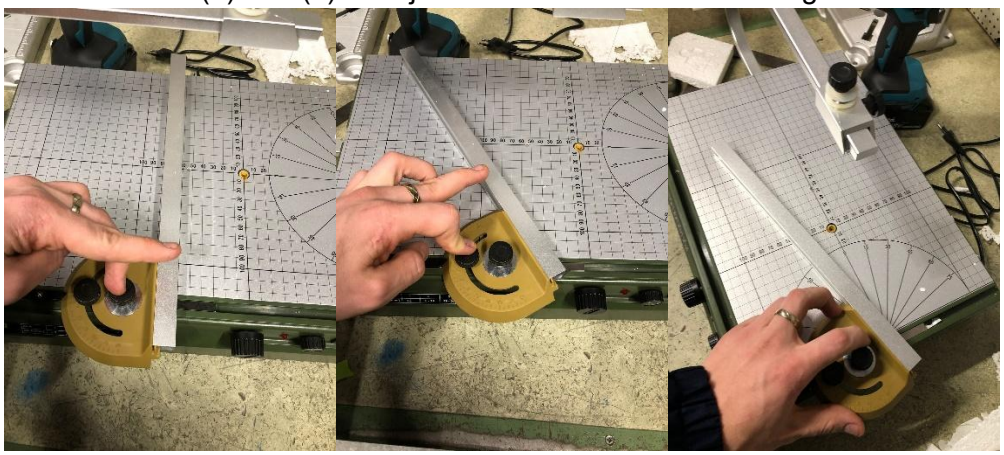
Detailed instructions on how to securely turn the machine on and off as well as how to get it ready for use

Startup

1. Check that the wire is not touching anything.
2. Plug power socket into wall.
3. Turn the on/Off (1) switch On.

Using the machine

1. Check the Information for level knob (4).
2. Turn Level knob to the correct value according to the information from step 4.
3. Use the knobs (5) and (6) to adjust the ruler for the correct angle.



Shutdown

1. Press the On/Off switch Off
2. Unplug the machine
3. Wait for the wire to get into room temperature
4. Leave machine parts in their original position
5. Check that the machine doesn't have any damage
6. CLEAN UP after yourself any remining's
7. Put back the machine in the corresponding drawer

Maintenance

Common issues and fixes

Broken wire:

- This is a very easy fix. In this case watch the video tutorial located at the appendix at time 3:51 to see how the wire is connected

- The wire can be placed perfectly straight using a right-angled ruler as a guide (see below).
- Or the wire can be tightened at an angle to cut shapes at angles.



Appendix

Manufacturer's manual:
http://www.mdc.umn.edu/facility/files/electrical/Elec%20Manuals/Foam%20Wire%20Cutter%20User%20Manual.pdf

YouTube tutorial :https://www.youtube.com/watch?v=lbdoQx2yPVM

