

LASERCUTTING INSTRUCTION – Trotec Lasercutter

To obtain your cut parts quickly follow the following steps, or walk by for more info:

1. Send your files (in accepted formats) to Makerzone@tdvg.nl
2. Send along the required material (from materials list) and required number of parts.
3. When parts are finished an email will be sent and parts can be picked up inside the Makerzone.
4. Sign approval form attached to the parts

Preferred file format – Adobe illustrator file (.ai)

For cutting operations DXF files (.dxf) are also accepted. Because the shapes in dxf files are separate lines, the laser might cut the lines one by one. Therefore, to get smoother results illustrator files are preferred.

The Trotec lasercutter has a range of 1200x700 mm, larger dimensions might be possible when discussed. Preferably nest multiple parts in one drawing. Some standard materials are available, specific materials can be brought or ordered if needed.

Illustrator instruction:

- The cutting width of the laser beam is 0.1 – 0.2 mm depending on the material and its thickness. It is therefore possible to put parts tightly against each other to use material efficiently.

RGB colour codes are used for different types of cutting operations:

- The **black colour** RGB (0,0,0) is used to engrave text and surfaces.
- The **green colour** (RGB 0,255,0) is the first one to be cut. This is for example for a bore of a gear. If the gear is cut first it is possible that it will move slightly after cutting the outlines. Cutting the bore afterwards may result in the hole not being perpendicular and centred with the gear. Select a stroke thickness of = 0,01mm.
- The **blue colour** RGB (0,0,255) is used to engrave lines. Stroke= 0,01mm.
- The **red colour** RGB (255,0,0) is for the final cut. Stroke= 0,01mm.

On default the Trotec software cuts inner geometries first. The green colour is used when parts are nested, and geometries are preferred to be cut first (see picture below).

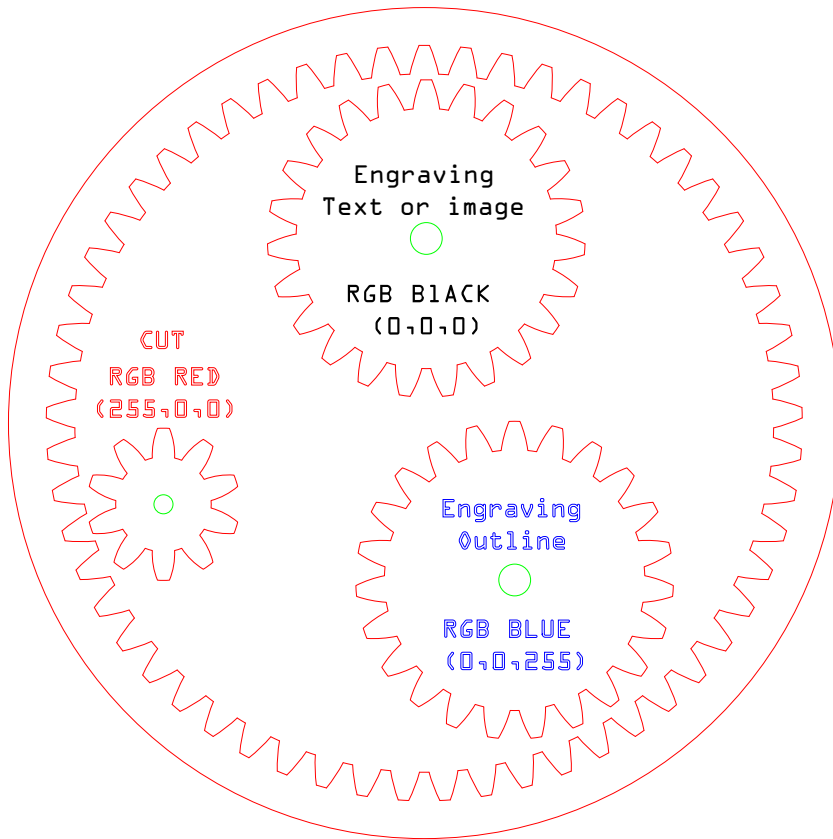


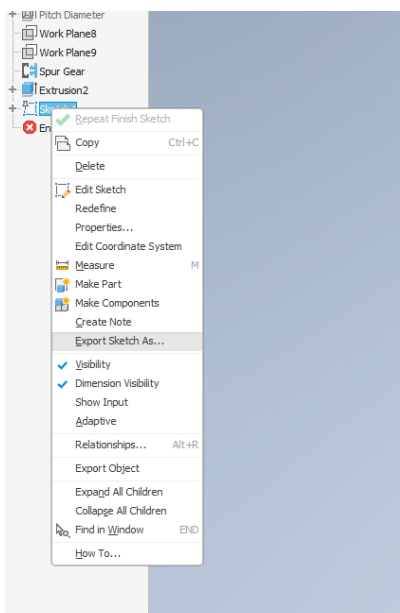
Figure 1 Cutting colours for nested objects

DXF instructions

Please make sure no double lines are present in your drawing. When projecting your drawing make sure no invisible sketches are present. Watch out with parts that have chamfered sides, this can make the sketch have double lines.

When only cutting one part:

- Export your sketch as DXF file in your 3D modelling software, from the modelling tree.



When cutting multiple parts:

- Make drawing file from your parts
- Scale your drawing as 1:1
- Don't use an angled view, or view with hidden lines visible.
- Select the view to be an outline (no colours or fill)
- Make sure you don't have borders or annotations on your drawing sheet
- Save drawing file as DXF file

