

CUTTING

FOR THICKER CROSS SECTIONS:

Recommend the use of a chain saw with a carbide tipped chain.

Chain Saw:

- Any model saw with a rated horsepower of at least 7 HP and with a 20 inch bar length.
- Stihl Power Tools has saws that meet this recommendation. (Stihl USA - Stihlusa.com)

Chain:

- Carbide tipped chain to fit a 20 inch bar length.
- Rapco has chains that meet this recommendation. (Rapco Industries - rapcoindustries.com, 800-959-6130)

Carbide tips are brittle, any contact with the ground or other objects may shatter or dull the tips. Saws and chain should be kept clean between cuts. Blowing out residue from the cut and the saw cavities helps prolong chain life.

Expected Life of Carbide Tipped Chain Used on Tangent Sustainable Lumber

Molded Lumber (ML)	10" thick section	14+ cuts
Fiber Reinforced Molded Lumber (MF)	10" thick section	14 cuts
Bar Reinforced Molded Lumber (MB)*	10" thick section	12 cuts

*with 1" fiberglass bar

FOR THINNER CROSS SECTIONS:

- Radial / Chop / Miter / Circular Saw can be used for cross sections thinner than 6" in thickness.
- A carbide or diamond tip blade is recommended to extend the life of the blade. It is also recommended that the blade be cleaned after each cut.

DRILLING / COUNTER BORING

Recommend a power drill with a ¾ inch chuck, a rated horsepower of at least 1.5 HP and capable of sustained 300 +/-50 RPM. Power drills of this size can produce a substantial torque so use caution when manually operating such a drill. Milwaukee Tools has power drills that meet this recommendation.

DRILLING / COUNTER BORING (cont.)

Recommend drilling a through-hole of sufficient diameter for easy passage of the mounting hardware (threaded rod or screw). If it is desired to recess the head or nut and/or washer of the hardware below the surface of the timber, bolt heads or nuts on threaded rods should not be recessed more than ½” below the surface of the timber. A counter bore bit of sufficient diameter to make the recessed hole should be used. Most counter bore bits will require first drilling a pilot hole and the use of a counter bore bit with a pilot attached that fits the diameter of the pilot hole to guide the boring. The pilot hole can be of sufficient diameter for use with the mounting hardware. It is always advisable to discuss your hole sizing and location plan with your Tangent representative before beginning your work.

Standard high speed steel twist drills are suitable for drilling most through holes or pilot holes for the mounting hardware. Use of Cobalt drills will provide longer life than high speed steel. Holes larger than 1 ½ inch diameter are best bored to size using a counter bore bit and pilot hole.

Placement of holes in timbers should be designed to avoid any rebar in the timber if at all possible. Nicking into rebar reduces the load capacity of the timber.

NOTE: Plastic Timbers EXPAND/CONTRACT along their length based on temperature swings. This is different than Wood Timber. The EXPANSION/CONTRACTION is less-so when the Plastic Timbers are reinforced with fiberglass; more-so when not reinforced. It is suggested, especially when connecting to concrete or steel (materials that have significantly lower rates of expansion/contraction) that bolt and counter-bored holes are oversized or slotted to allow for this EXPANSION/CONTRACTION. For design purposes, the coefficients of thermal expansion for Tangent materials are as follows:

Expected Coefficients of Thermal Expansion for Tangent Sustainable Lumber	
Product	Coefficient (in/in/°F)
Molded Lumber (ML)	0.000055
Fiber Reinforced Molded Lumber (MF)	0.000033
Bar Reinforced Molded Lumber (MB)	0.000014

For more detailed information about EXPANSION/CONTRACTION, and for guidance on how to apply the above coefficients to your specific installation, contact your Tangent Representative.

RECOMMENDED REPAIR PROCEDURE

FOR SMALL HOLES/PATCHES:

1. Preheat the area until the surrounding plastic becomes soft and sticky.
2. Press shavings or plastic residue material into the area and heat until material sticks to the surrounding plastic.
3. Repeat application in layers, letting material cool between applications, until area has been built up to flush or slightly beyond surrounding surface.
4. Sand smooth to blend repair into surrounding surface.

FOR LARGE HOLES/PATCHES:

1. Cut a section of plastic from left over timber material and shape it to be slightly smaller than the hole to fill.
2. Preheat the repair area until the surrounding plastic becomes soft and sticky.
3. Preheat the plug until its outer surface becomes soft and press the plug into the hole.
4. Press shavings or plastic residue material into any spaces between the plug and the hole and heat the area until material becomes sticky.
5. If needed, repeat application in layers, letting material cool between applications, until area is built up to flush or slightly beyond surrounding surface.
6. Sand smooth to blend repair into surrounding surface.

FOR COSMETIC REPAIRS:

1. Fill any small gouges or scratches with colored silicone sealants and smooth the area for an even finish.