

# MTLD — Mass Timber Lifting Device

**The MTLD Mass Timber Lifting Device provides a fast and efficient method for erecting panels and beams. It quickly attaches to and detaches from a single screw anchored into the mass timber element, saving time during the rigging process.**

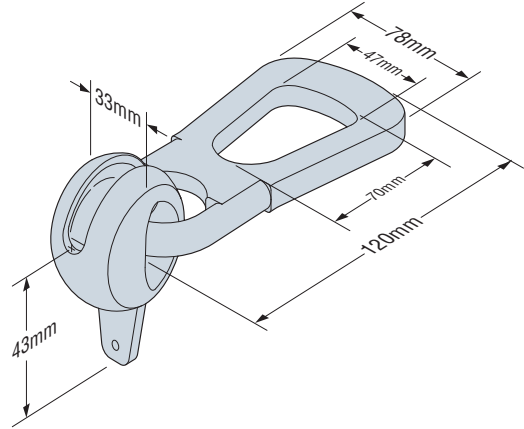
## Material:

Cast and forged steel

**Finish:** Corrosion Resistance Level  
Zinc Plated **LOW**

## Features & Benefits:

- Fast attachment and detachment
- Attaches with a single screw
- Load-rated with multiple screw options
- Screw installed with or without milled pocket
- Rated for loads up to 1.3t
- OSHA Section 1926.753(e)(2) compliant



## Allowable Loads for MTLD - 1 Screw

Model No.	Screw Model No.	Screw Length (mm)	Allowable Loads, F (kg)	
			$\theta = 90^\circ$	$\theta = 60^\circ$
MTLD	ESCRFTC10.0x180	180	732	634
	ESCRFTC10.0x220	220	906	785
	ESCRFTC10.0x240	240	993	860

1. Choose an allowable load, F based on the sling angle,  $\theta$ . Allowable table loads shown are based on the angle at which the MTLD was tested.
2. Screws are only permitted to be used for a single lift and shall not be used for structural applications thereafter.
3. Allowable loads are valid for a screw installed at  $90^\circ$  into the face-grain of the CLT panel or glulam.
4. Allowable loads apply to wood with a mean density of 420kg/m<sup>3</sup> or greater or greater.
5. Allowable loads may not be increased for load duration.
6. For conditions where the moisture content of the wood is greater than 19%, adjust load values by the factor, CM = 0.70.
7. Tabulated values are not valid if  $\theta < 60^\circ$ . Linear interpolation is allowed for  $60^\circ \leq \theta \leq 90^\circ$ .
8. A qualified design professional must specify the screw which fits better to the applied load in the ESCRFTC10.0 range.
9. All rigging components and spreader bars that are used in conjunction with the MTLD shall be of sufficient strength and stiffness to carry the required load.

## Allowable load calculation:

The loads introduced in the table come from calculation of the screw capacity and the allowable load of the lifting device. We can resume this as following:  $F = \min(R_{adm,MTLD}, R_{adm,screw/sin(\theta)})$ .

The allowable load of the MTLD is given by the manufacturer,  $R_{adm,MTLD} = 1300$  kg.

For the calculation of the screw capacity, we will use several safety factors:  $R_{adm,screw} = k_{mod} \cdot R_{sk,screw} / (\gamma_M \cdot \gamma_G \cdot \gamma_{inh})$

With,  $k_{mod} = 0.9$ , safety factor related to the load duration and service class from EN 1995-1-1. Even if it is an instantaneous load, we can't set a safety factor greater than 1.

$\gamma_M = 1.3$ , safety factor for assembly in timber from EN 1995-1-1

$\gamma_G = 1.35$ , partial factor for permanent actions from EN1990. It will allow us to compare directly the allowable load to the load to lift.

$\gamma_{inh} = 1.5$ , partial factor for lifting and handling (live load) from CEN/TR 15728.

It is to say:  $R_{adm,screw} = R_{sk,screw}/3$

The characteristic capacity of screw is calculated EN1995-1-1 and related ETAs.

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This flyer reflects information available as of March 20th 2025 and may be updated periodically.

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