

TTF SCAFFOLDING INC.

PRODUCT GUIDE

# 10K STEEL FRAME SHORING

High-capacity steel frame shoring for slab and beam formwork.

**Rated to 10,000 lb (4,535 kg)** | **2.5:1 Factor of Safety** | **Tested to CSA & SSFI**



ABOUT THE SYSTEM

## TTF's Steel Shoring Frames are made of high-quality steel tubes and accessories, which are galvanized or painted.

Using TTF's components and accessories, Steel Frames can be adapted to any geometry, steps and slopes.

| 10,000 lb | 2.5 : 1 | CSA & SSFI |
|---|---|---|
| RATED LOAD (4,535 KG) | FACTOR OF SAFETY | TESTED TO |

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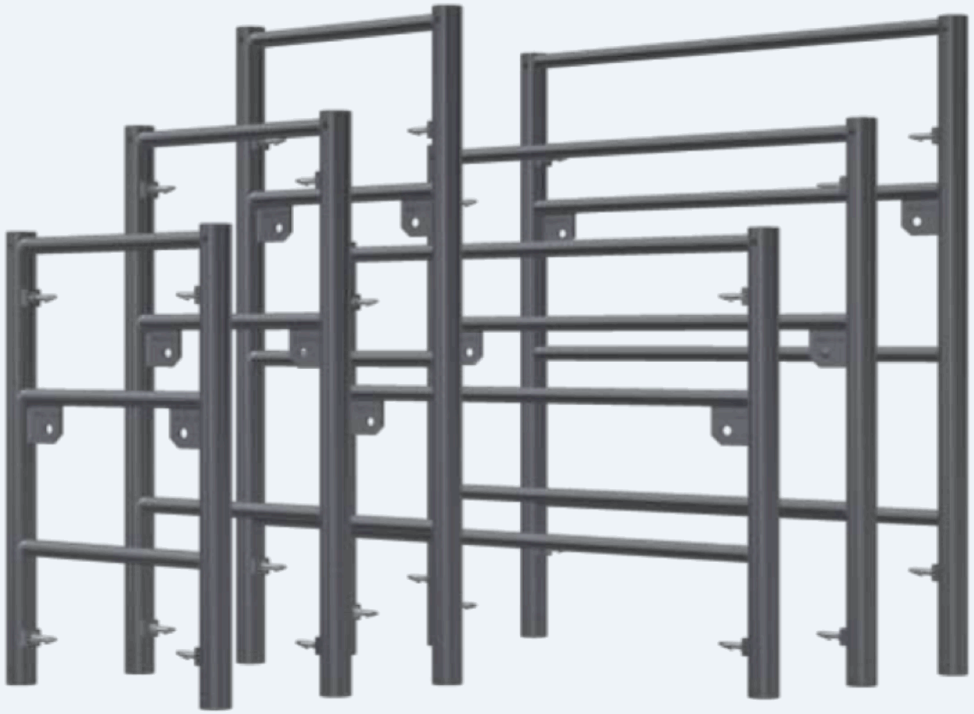
10K STEEL SHORING SYSTEM

## TTF's **10K Steel Shoring System** is built to safely support loads of up to 4,535 kg (10,000 lb) with a factor of safety of 2.5:1, per CSA and SSFI.

Frame capacities vary depending on the number of tiers in height, the lengths of extensions, the amount of bracing, whether inter-bracing has been used, and whether any lateral or wind loads are imposed.

### HOW FRAMES ARE TESTED

The normal testing configuration of the **10K Steel Shoring System** exceeds the requirements of both the CSA and the SSFI of the USA. A tower 3 tiers high, made of 6 ft high frames with screw jacks extended 12″ top and bottom, is loaded to failure. The load rating of the frames is then determined by dividing the failure load by the required safety factor.



**NOTE**

**Using extension tubes reduces the capacity of the frame. Please consult our engineering department for load capacities.**

TTF uses two styles of screw jacks with the 10K shoring system: the 48 mm (1.9 in) and the Dywidag screw jack.



## 48 MM (1.9 IN) SCREW JACK

| | |
|---|---|
| **Shaft** | 48 mm (1.9 in) hollow steel |
| **Length** | 813 mm (32 in) |
| **Adjust** | 610 mm (24 in) |

All TTF screw jack plates take T-head bolts, designed for quick, easy locking into the continuous slot on our aluminum stringer beams. When the plate rests on mudsills or is used with timber stringers instead of aluminum, it can be nailed to the timber through the holes in the plate, or a special U-head can be attached to the jack plate.

The adjusting nut handles are “stepped” so the screw jack sits solidly centred in either an extension tube or the frame leg, giving straight alignment and rigidity.

**TIME-SAVING TIP**

**Always set the adjusting nut higher than finish height before installing it in the frame leg or extension tube. It is always easier to lower than to raise for final setting.**

## DYWIDAG SCREW JACK



| | |
|---|---|
| **Length** | 605 mm (24 in) |
| **Adjust** | 430 mm (17 in) |
| **Bases** | Fixed or swivel |

Both styles use the nearly indestructible Dywidag rod, whose thread won’t get damaged and is self-cleaning.

1. **Fixed Plate Screw Jack**
   The standard jack. Recommended for post shores and on level floors or slabs.

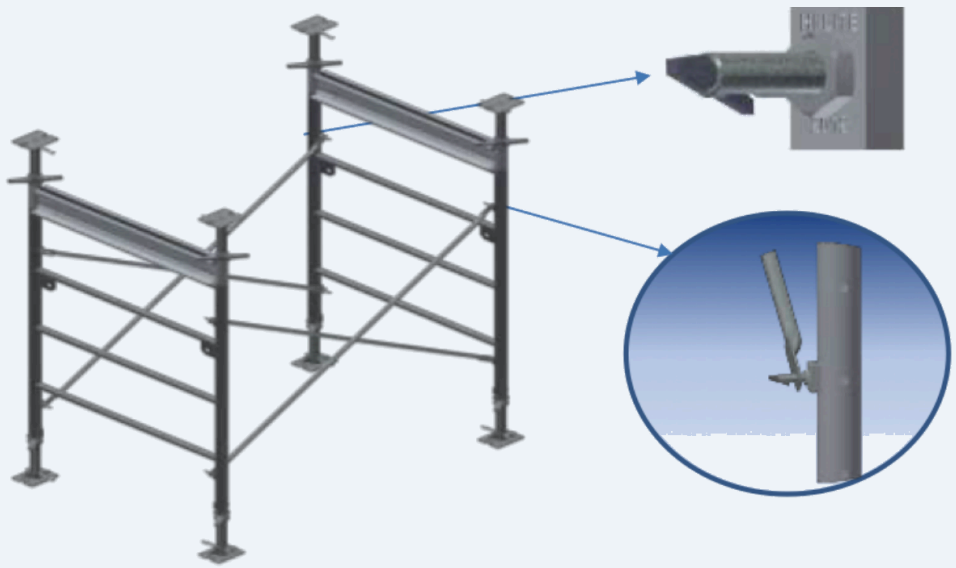
2. **Swivel Plate Screw Jack**
   For uneven or sloped bases, or for forming inclined surfaces. Used top or bottom, the plates have 2 T-bolts for positive locking to stringer beams.

**STABILIZER CAPS**

**Stabilizer caps remove “wobble” in jack shafts inserted in frame legs or extension tubes, for better load capacity and safety.**

# JET LOCKS

## FAST, SECURE CROSS BRACING



### 1 Jet Lock Assembly

This fastener is standard on all TTF shoring frames. Jet Locks are fitted at set points so cross braces attach to the frames quickly and securely. They are easy to replace in the field if needed, as they are held by standard hex jam nuts.

### 2 Installing Cross Braces

Open the braces, line up their holes over the Jet Locks, then push to snap on. The Jet Lock spring is stainless steel for a long, rust-free life. Special bolts and nuts are available for solid cross brace connections, but are seldom needed because the Jet Lock connection is very secure.

### 3 Jet Lock Spacing

The spacing allows inter-frame bracing with standard cross braces, adding considerable rigidity to a multi-tier tower. The inter-frame brace is often a standard 600 mm (2 ft) cross brace by the length required. On taller frames, Jet Locks can also be spaced on 1.2 m (4 ft) modules, so continuous 1.2 m (4 ft) by any length cross braces can be used up a high tower, giving full capacity when continuously braced.

**TWO-TIER TOWERS**

**When the first tier is 1.2 m (4 ft) high frames, the Jet Lock spring lets cross braces be snapped onto the second tier from the ground, saving planks and the climb to assemble. When a 1.2 m (4 ft) frame is used with a 1.8 m (6 ft) frame, we recommend placing the 1.2 m (4 ft) frame at the bottom and the 1.8 m (6 ft) frame on top, with screw jacks in before placement.**

# SADDLE BEAMS

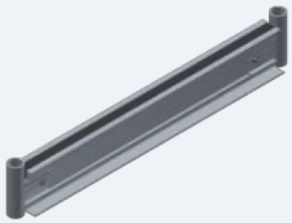
**BEAM & SLAB SUPPORT ON ONE TOWER**

## TTF's Saddle Beams allow beam and slab support from a single tower.

Saddle Beams make drop beams and pre-cast beams easy to deal with, letting you strip the slab without loosening or disturbing the support under the concrete drop beams.

The Saddle Beam supports poured-in-place concrete drop beams within the frame at one level, leaving the legs free for extension tubes and screw jacks to support the slab formwork at another level. The slab form can then be stripped without disturbing the drop beam soffit forms.

Saddle Beams are made from standard 165 mm (6-1/2 in) high-strength aluminum beams, with special brackets at each end to transfer the load of concrete drop beams to the frame legs. They are installed at the top of a tower, with extension tubes locked into the frame legs and passing through the end brackets. For wide poured-in-place beams, longer Saddle Beams can be fitted between two frames over the cross braces.

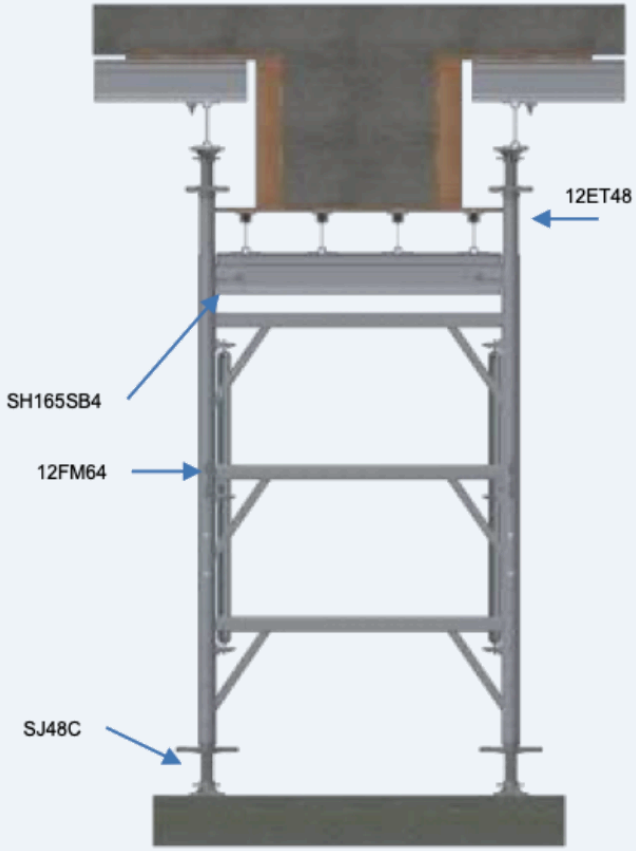


**SH165SB4**
Saddle Beam 6.5″ – 4′
**8.0 kg / 17.6 lb**

**SH165SB6**
Saddle Beam 6.5″ – 6′
**11.2 kg / 24.8 lb**

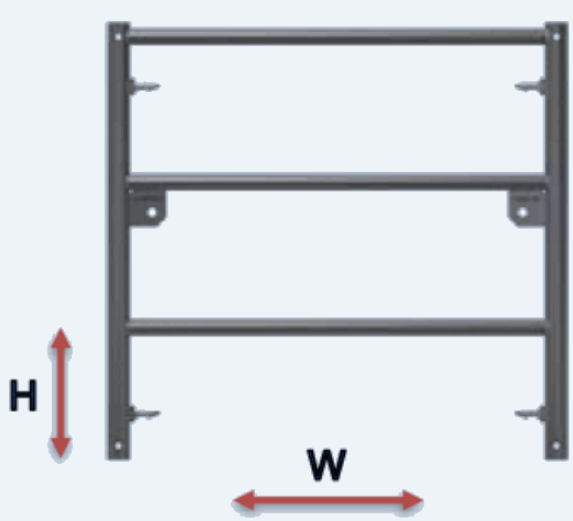
**LOAD CHARTS**

**Refer to the load charts to determine the capacities of the various Saddle Beam configurations.**



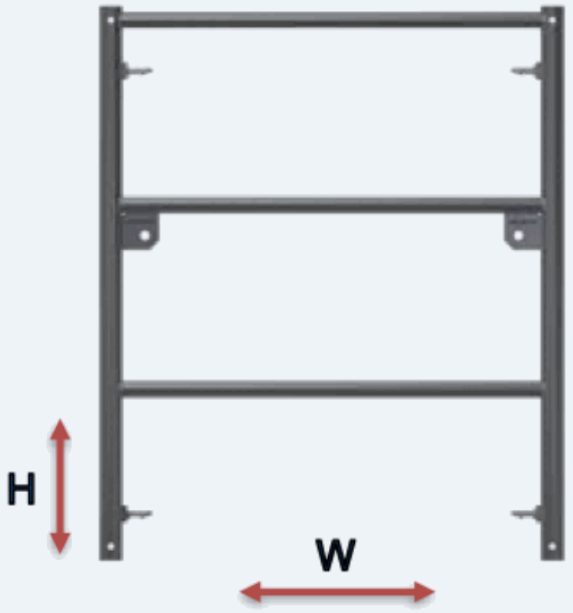
# 10K STEEL FRAMES

## SIZES & WEIGHTS



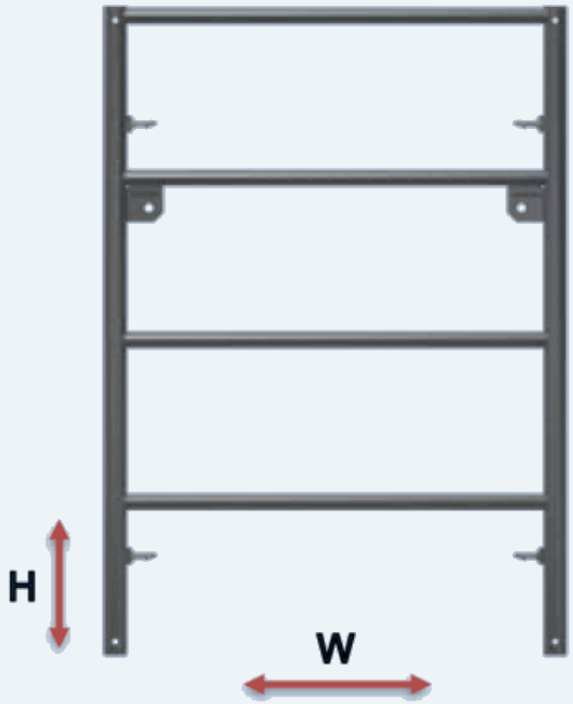

### 4′ High Frames

| | | |
|---|---|---|
| **HL10S42** | 1.2 × 0.6 m (4′ × 2′) | 19.4 kg / 44.77 lb |
| **HL10S44** | 1.2 × 1.2 m (4′ × 4′) | 23.7 kg / 52.25 lb |




### 5′ High Frames

| | | |
|---|---|---|
| **HL10S52** | 1.5 × 0.6 m (5′ × 2′) | 22.7 kg / 50.04 lb |
| **HL10S54** | 1.5 × 1.2 m (5′ × 4′) | 27.0 kg / 59.52 lb |




### 6′ High Frames

| | | |
|---|---|---|
| **HL10S62** | 1.8 × 0.6 m (6′ × 2′) | 27.4 kg / 60.41 lb |
| **HL10S64** | 1.8 × 1.2 m (6′ × 4′) | 33.4 kg / 73.63 lb |

All sizes are height × width (H × W).



**SJ60TP**
60 mm SJ Taper Pin
0.39 kg / 0.88 lb



**HLS10SCP**
Coupling Pin
0.7 kg / 1.5 lb



**HDPH5/8X3**
Hitch Pin 5/8″ × 3″
0.4 kg / 0.8 lb



**HDPR1/8**
R Pin 1/8″
0.001 kg / 0.002 lb



**HDCTP5/16X4**
Cotter Pin 5/16″ × 4″
0.1 kg / 0.22 lb



**SJ48XHA**
48 mm (1.9″) Screw Jack c/w X Head 10″ × 5″ (127 × 254 mm)
9.9 kg / 21.82 lb



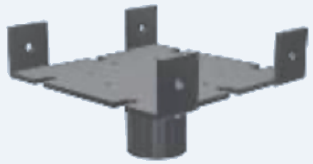
**SJ48TF**
48 mm (1.9″) Screw Jack c/w Taper Pin Base Plate
7.9 kg / 17.42 lb



**SJ48**
48 mm (1.9″) Screw Jack c/w Base Plate
6.7 kg / 14.77 lb



**SJ48TS**
48 mm (1.9″) Screw Jack c/w Taper Pin Swivel Base Plate
6.7 kg / 14.77 lb



**SJUH5X10**
SJ U-Head 10″ × 5″ (127 × 254 mm)
4.3 kg / 9.48 lb

**AVERAGE MAXIMUM LOAD**

# 114,500 lb

3 tests · baseplate & U-head screw jacks at 12″ extensions

**SAFE LOAD PER LEG (2.5:1)**

# 11,450 lb

Average across all tests

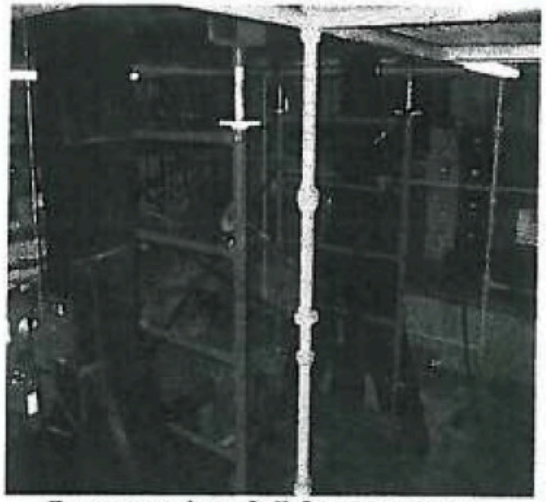
| TEST | MAX LOAD | PER LEG SWL |
|---|---|---|
| 1 | 118,775 | 11,880 |
| 2 | 110,225 | 11,020 |
| 3 | 114,500 | 11,450 |
| **Avg.** | **114,500** | 11,450 |

Loads in lb. The original test report is reproduced at right.

## SHORING FRAME COMPRESSION TESTS

Baseplate and U-head screw jacks at 12" extensions

| Test # | Maximum Load (lbs.) | Maximum Load Per Leg (lbs.) | Safety Factor 2.5:1 Load (lbs) Per Leg |
|---|---|---|---|
| 1 | 118,775 | 29,690 | 11,880 |
| 2 | 110,225 | 27,560 | 11,020 |
| 3 | 114,500 | 28,630 | 11,450 |
| Avg. | 114,500 | 28,630 | 11,450 |



Representative of all frames at setup



Test #1. Deflection at 118,775 lbs.

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**Respectfully Submitted**

Terry Wilt

# TEST REPORT · 4′ × 4′ FRAME

3-TIER COMPRESSION TESTS · ANSI/SSFI SH300-2007

**AVERAGE MAXIMUM LOAD**

## 118,280 lb

3 tests · base plate & U-head screw jacks at 12″ extensions

**SAFE LOAD PER LEG (2.5:1)**

## 11,830 lb

Average across all tests

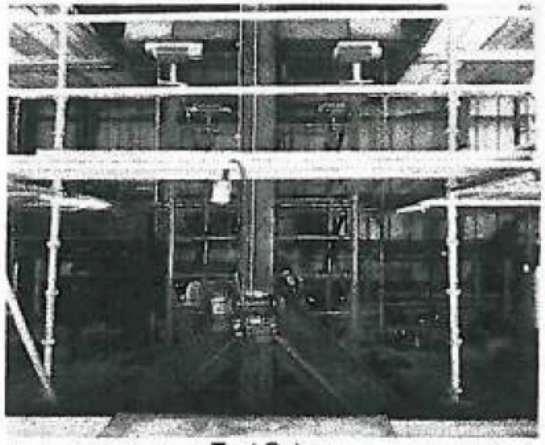
| TEST | MAX LOAD | PER LEG SWL |
|---|---|---|
| 1 | 117,590 | 11,760 |
| 2 | 119,665 | 11,965 |
| 3 | 117,590 | 11,760 |
| **Avg.** | **118,280** | 11,830 |

Loads in lb. The original test report is reproduced at right.

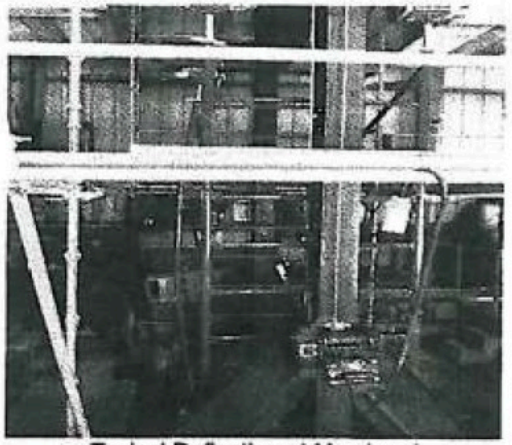
**3 TIER SHORING FRAME COMPRESSION TESTS**
**Test Method: ANSI/SSFI SH300- 2007**

Base plate and U-head screw jacks at 12" extensions

| Test # | Maximum Load (lbs.) | Maximum Load Per Leg (lbs.) | Safety Factor 2.5:1 Load (lbs) Per Leg | Deviation from Average (%) |
|---|---|---|---|---|
| 1 | 117,590 | 29,400 | 11,760 | 1 |
| 2 | 119,665 | 29,915 | 11,965 | 1 |
| 3 | 117,590 | 29,400 | 11,760 | 1 |
| Avg. | 118,280 | 29,570 | 11,830 | --- |



Test Setup



Typical Deflection at Max Load

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Respectfully Submitted

Terry Wilt
Department Manager, Metals & Product Testing