**Activity Handling and assembling steeldeck**

**Location As required**

**Staff allowed All staff once trained**

**Students allowed** All students, during 1st year lessons or when signed off in Skills Record.

 **This activity must be actively supervised by trained staff.**

**Special notes Users must be over 18 years of age**

**Date of creation** 26 March 2014; revised 25.1.2016(AW: multicouplers)

**Most recent revision**  17.04.2019 (AW)

**Tasks, Associated Hazards, Action to be taken to avoid hazards**

**1. Approved Tasks**

Assembling of raised platforms using individual modules of Steeldeck (decks)

 This task requires a minimum of four people

**2. Preparation**

 Draw or sketch a plan of the proposed platform including leg positions and lengths if appropriate.

 **Equipment** required for this task:

* Steeldeck units, scaffold tube legs, and multicouplers
* 17mm and 19mm spanners or ratchets.
* Additional scaffold tube and scaffold couplers for bracing
* Podger to assist with aligning bolt holes.
* M10 x 65mm or 70mm 8.8 grade steel bolts with washers and nuts
* Steeldeck handrail units

**Legs** should be accurately cut to length and deburred. Plastic end caps should be used to protect delicate floors when necessary, e.g. in rehearsal rooms.

Calculate leg lengths by subtracting 22mm (or 32mm when end caps are used) as well as the thickness of any floor to be laid on top of the deck, from the intended finished floor height.

Steeldeck units should be checked for damage. Units with structural damage to steel frame should be removed from service. Loose tops should be re-attached. Check face and edges of ply tops for protruding staples, nails, etc. Check leg socket bolts are present and undamaged.

**Manual handling**

* Stacking and unstacking 8x4, 8x3, and 6x4 decks to and from stacks more than 1.5m high requires 4 people.
* Lifting legged decks into position may require up to 6 people depending on deck size and leg length.
* All other operations require at least 2 people, apart from manhandling decks of 16 square feet or less.
* Individual decks should be transported using “monkey chariots” when possible.

Never leave unattended decks standing on edge unless they have been tied off to prevent them being knocked over.

**3. Assembly process**

* The first piece of deck *must* be supported with all 4 legs.
* Lift deck onto long edge. One person holds deck upright.
* Ensure all leg socket bolts move easily.
* Fully insert legs into the sockets nearest to the floor. Finger tighten the socket bolts and then tighten with a spanner or ratchet. Lifting the bottom of the leg very slightly may make the tightening easier.
* Repeat for the other two legs.
* Use two people to foot the legs that are on the floor so that the higher legs can be pulled by two more people, raising the deck into its upright position. It may be necessary or helpful for an additional two people to assist by lifting the sides of the deck itself as the legs are pulled.
* Be aware that as the centre of balance passes over the legs in contact with the floor, the ‘footing’ will need to move to the other side of the legs. At this point those pulling will feel the deck want to fall towards them rather than pull away and should adjust their forces appropriately.
* Slowly lower the legs to the floor and check that the deck is stable.
* If the legs are particularly long they may need additional bracing before the deck is lifted.
* Stand the second piece on its long edge. Where possible position the deck so that when lifted it will be in its required position next to the original piece.
* Insert legs into the two sockets nearest the floor and tighten as before.
* Attach multicouplers to the adjacent legs on the previous piece of deck.
* The deck will need footing as before but will need to be lifted by its sides since there are no legs to pull it up by. Land the deck on the multicouplers and bolt to the previous deck without delay. A deck that is resting only on muticouplers should not be left unattended.

 **AT NO POINT SHOULD ANY PERSON BE ON TOP OF, OR ANY PART OF ANY PERSON BE UNDERNEATH, A PIECE OF STEELDECK ONE EDGE OF WHICH IS ON MULTICOUPLERS, UNTIL IT HAS BEEN BOLTED TO THE ADJACENT DECK.**

* From underneath the original deck, insert washered bolts through all bolt holes. It may be necessary to use a podger to aid alignment. Place a washer on the end of each bolt, thread on a nut and tighten it. Be careful not to overtighten, particularly if using pneumatic tools.
* Once connecting bolts are tightened the area below the deck can be accessed safely.
* Repeat as necessary for the remainder of the platform. A multicoupler must be used to support any leg sockets left empty.There may be points where a new piece of deck may only require 1 leg, i.e. if two of its sides are to connect to pre-assembled pieces. In this instance hanging battens should be attached to the top on both of the connecting edges, and extra care taken with the manual handling involved to lift the deck into position.
* Access to the top a platform during its assembly should be avoided if possible but if it is necessary then it is essential that no weight is applied to the top of any piece of steeldeck which is not yet bolted on, and that platforms are adequately braced.
* If bracing is required it should be installed as soon as it practicable after the platform is assembled. If a platform requiring bracing is left unattended before bracing is completed, prominent warning notices should be placed.
* Platforms over 1.5m high should be provided with plan bracing at least around their perimeter, at not more than 300mm above floor height. When necessary, e.g. , short runs of plan bracing can be omitted locally.
* Platforms over 1.5m high should be provided with triangular bracing to an extent decided by an assessment by the supervising staff of the size and intended use of the platform.
* Where possible and whenever beyond sightlines, steeldeck platforms and access treads should be handrailed. Handrails and treads should be installed as soon as is practicable after steeldeck assembly.

 **Alternative methods**

* Where structures are particularly low and wide, making access underneath difficult, it may be preferable to use 4 legs in every deck. It will normally only be necessary to bolt through peripheral connecting bolt holes accessible without going underneath the deck.
* Where structures are particularly tall it may be preferable to fully assemble them (including bracing) upside down before turning them over with chain hoists. In such cases a specific method statement should be written. This should include a weight and centre of balance calculation, and details of hoist positions, sling attachments and exclusion zones.

4**. After Assembly**

* Check tightness of bolts, multicouplers, and bracing couplers.
* Multicouplers should be left in place where possible.
* Where possible and whenever beyond sightlines, steeldeck platforms and access treads should be handrailed. Handrails and treads should be installed as soon as is practicable after steeldeck assembly.

**5. P.P.E. and clothing**

* Steel toe capped boots must be worn for this activity.
* Eye protection should be worn by anyone going underneath steeldeck whilst it is being assembled.