TRENCH BOXES are different from shoring because, instead of shoring up or otherwise supporting the trench face, they're primarily intended to protect workers from cave-ins and similar incidents. The excavated area between the outside of the trench box and the face of the trench should be as small as possible. The space between the trench boxes and the excavation side are backfilled to prevent lateral movement of the box. Shields may not be subjected to loads exceeding those which the system was designed to withstand.

FIGURE V:2-10 TRENCH SHIELD

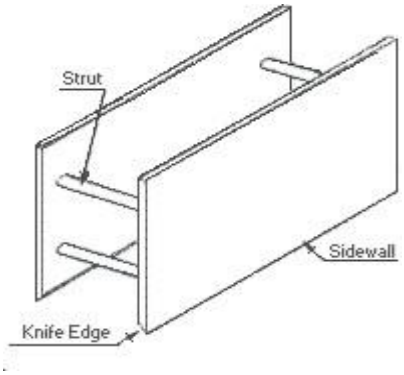
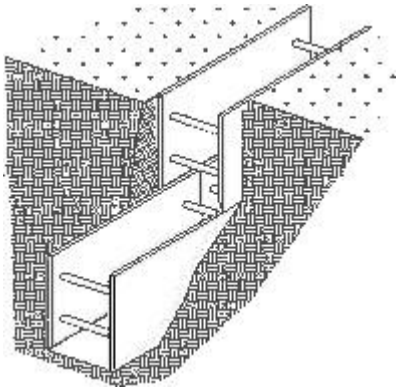


FIGURE V:2-11. TRENCH SHIELD, STACKED



COMBINED USE. Trench boxes are generally used in open areas, but they may also be used in combination with sloping and benching. A box should extend at least 18 inches (0.45 m) above the surrounding area if there's sloping toward excavation. This can be accomplished by providing a benched area adjacent to the box.

Earth excavation to a depth of two feet (0.61 m) below the shield is permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench and there are no indications of possible loss of soil from behind or below the bottom of the support system while the trench is open. Conditions of this type require observation on the effects of bulging, heaving, and boiling as well as surcharging, vibration, adjacent structures, etc., on excavating below the bottom of a shield. Careful visual inspection of the conditions mentioned above is the primary and most prudent approach to hazard identification and control.

FIGURE V:2-12. SLOPE AND SHIELD CONFIGURATIONS.