

ABSTRACT

COMPOSITE STEEL SHEET PILE AND STEEL SHEET PILE WALL USING
THE COMPOSITE STEEL SHEET PILE

A composite steel sheet pile and a steel sheet pile wall which comprise a steel sheet pile and a rigidity increasing steel material which are not fully integrated with each other but are combined with each other as superposed beams in such a manner that the deflection behaviors of the steel sheet pile and the rigidity increasing steel material almost coincide with each other. The configuration eliminates labor and cost required for welding, shape measurement, correction work, processing management etc., and allows the composite steel sheet pile and the steel sheet pile wall to be stored and transported with high efficiency. An H-shaped steel member 3 is disposed inside the web section of a steel sheet pile 2, and the upper end and the lower end of the H-shaped steel member 3 are joined to the web section of the steel sheet pile 2. Steel sheet piles 2 are connected together by engagement between joints 4, 5 provided at both ends of each steel sheet pile 2 in the width direction thereof, the connection being made in such a manner that protrusions and recesses in a cross-section of the steel sheet piles 2 face the same direction. One end of an H-shaped steel member 3 is secured by welding 6 etc. to a steel sheet pile 2, and the other end is joined to the steel sheet pile 2 using a combination of a joining bolt and a bolt hole having a size greater than a bolt hole having a size appropriate for the diameter of the bolt, and as a result, the H-shaped steel member 3 and the steel sheet pile 2 are permitted to be displaced from each other in the top-bottom direction. The H-shaped steel member 3 and the steel sheet pile 2 can be joined together in a construction site, and this allows the H-shaped steel member 3 and the steel sheet pile 2 to be transported separately to the site, joined together in the site and driven into the ground in the integrated form.

Figure 1