

## Box-shaped foundations of bored and auger piles (or diaphragm walls)

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ABSTRACT: Box-shaped foundations of bored or auger piles or diaphragm walls have several advantages over conventional deep foundations if high and concentrated loads are to be transferred into the ground. The bearing-deformation behaviour is superior, and the resistance towards horizontal loads and earthquake is higher. Moreover, the circumference/area of the foundation can be reduced which is especially important for bridge foundations in rivers. These positive characteristics are based on a composite effect between the pile walls and the enclosed soil core of the box foundations. The paper summarizes results from model tests and site measurements, describes theoretical aspects and compares bored piles, auger piles and diaphragm walls.