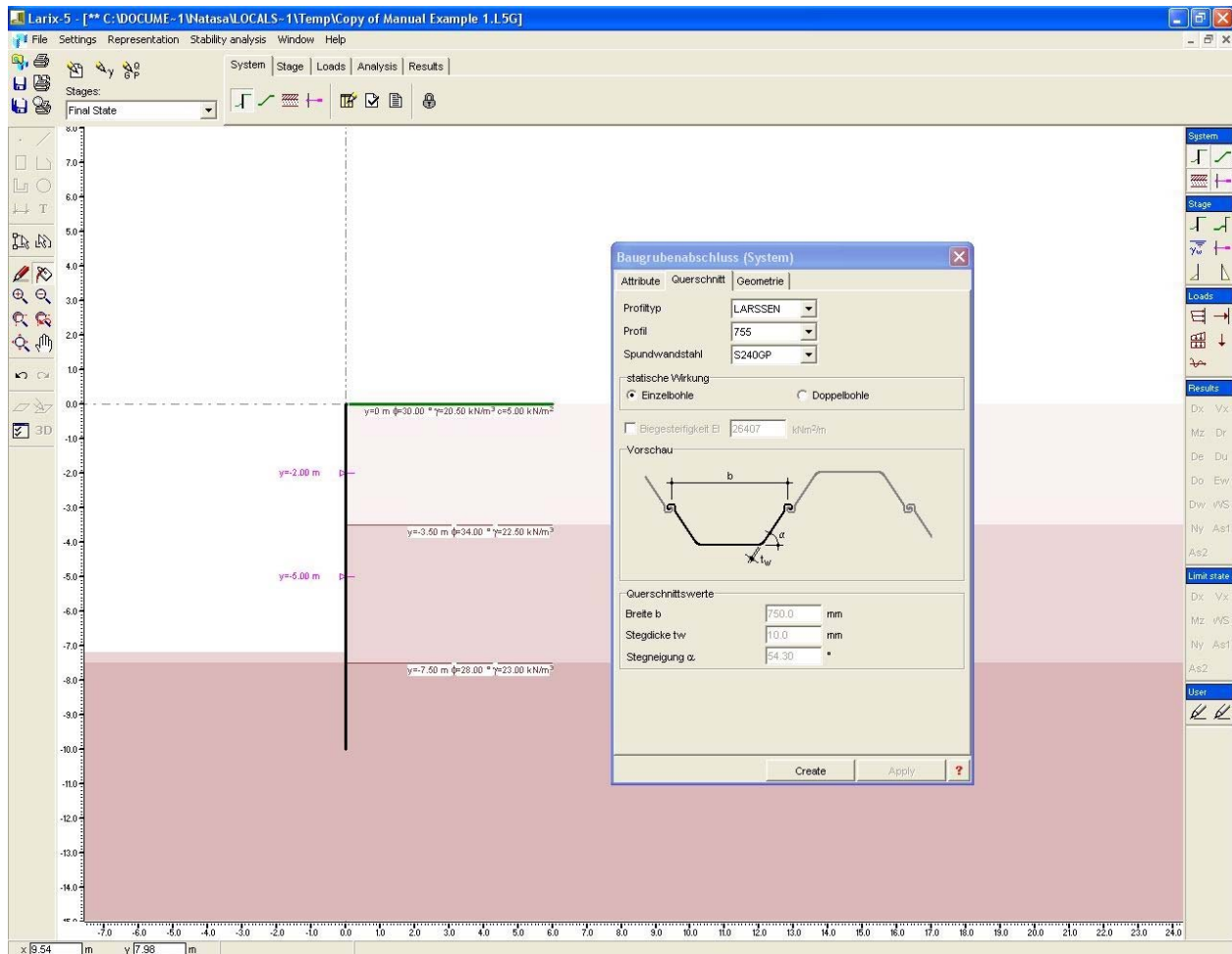


LARIX-5GQ

Cross-section design for the new LARIX-5 excavations walls module

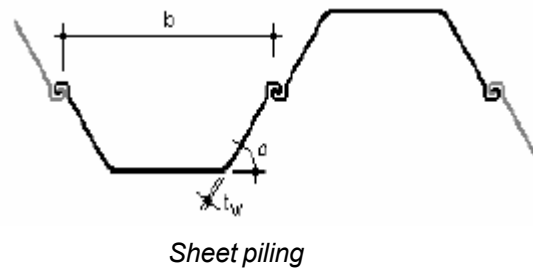


The new optional module Q includes, in the LARIX-5 excavations walls module, the design of the wall cross-section according to current SIA regulations. It allows the choice of the cross-section among the currently used types and the definition of the respective parameters. The Q option is suitable for the investigation of various alternatives and for the complete design of the final structure as well.

Sheet piling

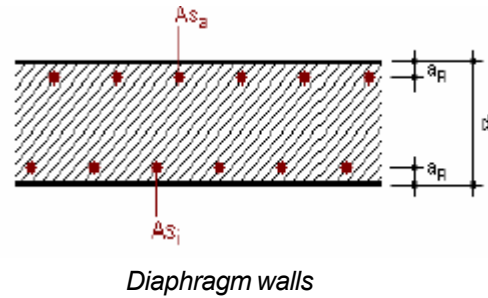
The program's library contains all currently used cross-sections of the Arcelor and Hoesch firms and the U-formed cross-section can be used as single or double piles. The verifications and the design is based on the elastic resistance of the cross-sections. The results consist of the degree of utilization of the selected cross-section and the required cross-section of the selected type.

Closed type excavation walls



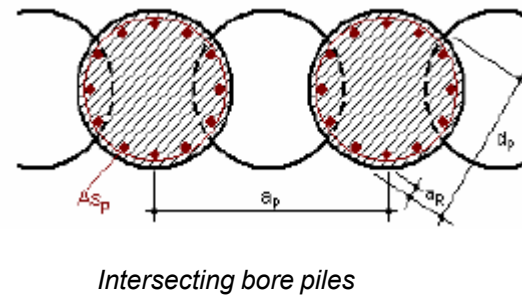
Diaphragm walls

The inner and outer reinforcement's layer is designed for bending with axial force, including a part of longitudinal reinforcement due to shear force. The output consists of the longitudinal reinforcement and the minimum depth of the diaphragm without shear reinforcement.

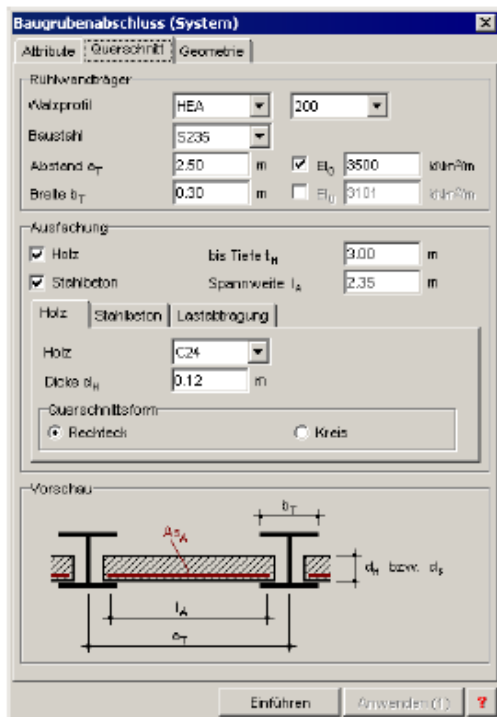
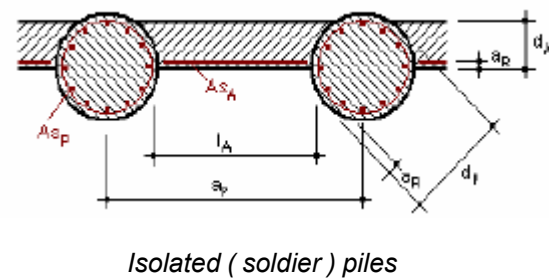
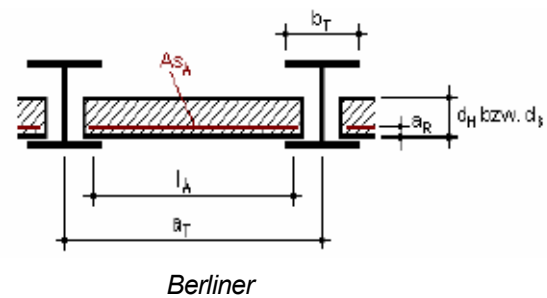


Bore pile walls

The longitudinal reinforcement of the piles is designed for bending with axial force, including a part of longitudinal reinforcement due to shear force. The spiral hoops are designed for shear. For walls where the piles are bored in a distance, the program allows also the design of the reinforced concrete panel filling the gaps and gives the minimum depth without shear reinforcement.



Open type excavation walls



Shape 1: Insert Cross section

Berlin walls

Available for Berlin walls are double T and double U-form beams. The verification and design of these beams is based on the elastic resistance of the cross-sections according to the current regulations for structural steel design. The panel wall may be from timber or reinforced concrete. The output for a timber construction is the minimum depth and for the reinforced concrete the required reinforcement and the minimum depth without shear reinforcement.

General

Due to the very friendly and easy change of cross-sections, the program is suitable for the investigation of various alternatives. The choice of the type of cross-section and the specification of the respective parameters is effected in a single menu (Figure 1) and are saved for each type of cross-section, thus the specified values are available every time the user returns to the previous type. The Q option offers also the possibility for rounding the peaks of the moments at the supports (anchors, braces) before the design of the cross-section by distributing the support reaction to a specified height.

Basis for the design can be the partial safety factors for the type 2 limit state or global safety factors. The output as usually consists of numeric tables and for the reinforcements graphically as well. Through the envelope results for all construction stages and all combination of actions the user can very quickly have an overview of the critical situations.