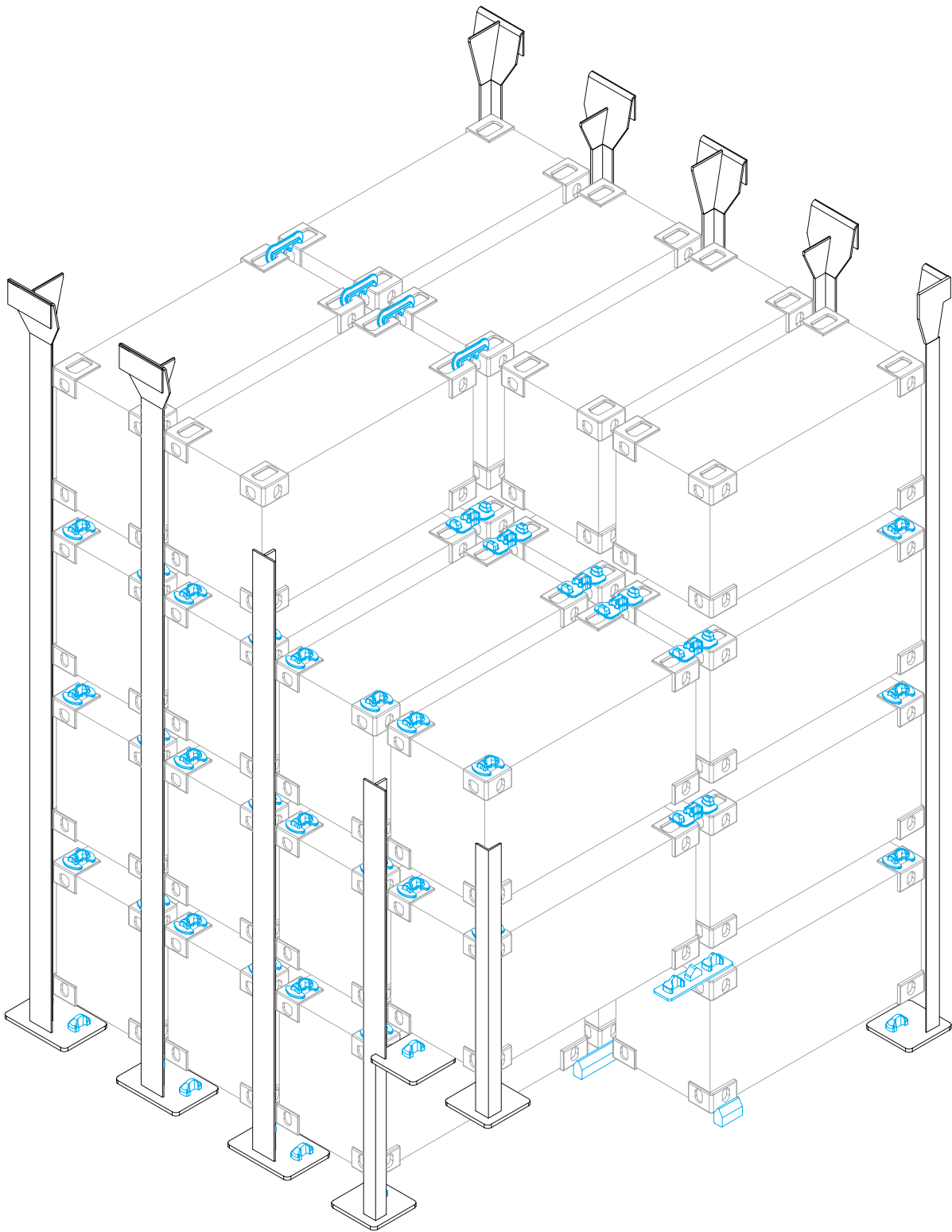


LONGITUDINAL STORAGE SYSTEM IN HOLDS



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Description

Anti-rack-spacer system

The basic idea of this system is to connect two 20' containers in longitudinal direction by use of so called Anti-Rack-Spacers (ARS) in order to simulate a 40' unit.

The transversal forces at 76 mm ISO-gap will be completely absorbed by the ARS and transferred into the 40' cellguides. This can only be realised when the 20' containers can slide in transversal direction on tank top. The required sliding range of 30 mm to each side has been decided in close dependence to the production tolerances of the ARS and the container corner castings. The load of two 20' containers (2 x 24.0 t = 48.0 t) has to be absorbed by the guide angles.

The stackload for a 20' stack is limited to a maximum of 120 tons without limiting the number of tiers. The reason is given by the transverse sliding force which has to be higher than the friction force on tank top.

No reinforcements are necessary at the longitudinal bulkhead in way of 76 mm ISO-gap because all horizontal forces will be absorbed by the 40' cellguides.

The ARS-system has a higher loading flexibility than the transversal stowage system because each row stands separately and a 20' row can be stowed next to a 40' container.

As a disadvantage it has to be mentioned that terminal cranes always have to move parallel to the quay for each 20' container unless the crane is equipped with a double spreader.

