



Loading & Unloading

Pipes are usually reloaded with tall cranes to ensure minimal angling between the straps going from the crane hook to strapping locations. Shipment of pipes with insulation and/or protective coating, regardless of their length, calls for special requirements on the number of layers, wooden separation, and shoring. Shipment of such pipes is done in groups of at least 20 rail cars. Slings are done by either sliding the sling under the pipe at regular intervals from the pipe center, but no less than 25% from the pipe length. For pipes with insulation coating nylon slings are used instead of metal ones. Also pipes can be gripped by the ends with hooks, in which case the brim of the pipe end must be protected with a guard metal ring or plastic cap.

Auto Transport

Transportation of piping by freight trains is carried out on special pipe-trailers or regular 13m-long trailers, reequipped for this type of shipments. The advantage of automobile transport compared to other shipping methods is the possibility of delivering the cargo to those locations that do not have a railway commute, however, due to weighing limitations (not more than 20 tons per trailer) is not economically viable for long haul.

Railway Transport

Transportation of piping is carried out on the semi-wagons of the Ukrainian Transport Ministry inventory fleet. Pipes under 12.7 meters are loaded in accordance with the technical specifications of the UTM. For pipes over 12.7 meters in length we use open-end platforms with «cover» wagons placed on both ends. This matrix

may vary depending on the diameter of the pipes, their weight, and insulation coating. Prior to the start of shipment, the first loaded car is tested for dynamic stress and accepted by a committee, comprised of the sender representatives and railway authorities.

Throughout its entire trip the cargo is escorted with a guard wagon, with the guards ensuring the control over the lading of each rail car, possible cargo shifting, etc. In the case the guards detect such shifting or other occurrences that may hamper the safety of the cargo and when such occurrences cannot be amended quickly, the rail car may be cut off the train and laded to a different train, once the problem is eliminated. In this case one of the guards will stay with that car.

Storage

When pipes are placed on the ground, the platform must be free of any uneven surfaces that may cause cross deformation of the pipes. If the pipes have insulation coating the storage platform is cross-paved with wooden beams (at least five of them), located at even intervals across the length of the pipes. There are also limitations concerning the stack height and layout, which are determined by the manufacturer. Pipes can be stored in open platforms.

Sea and River Transport

Transportation of piping when the ship enters the inner water ways is carried out on river-sea class vessels with 1,500–3,000 tons displacement. The pipes are only placed in the hold. If there is an insulation coating we set a layer limit, the pipes are stocked with cross boards in between layers, and are fixed with wire tie-rods with rubber pads.