USAGE GUIDE FOR DUCTILE IRON PIPES
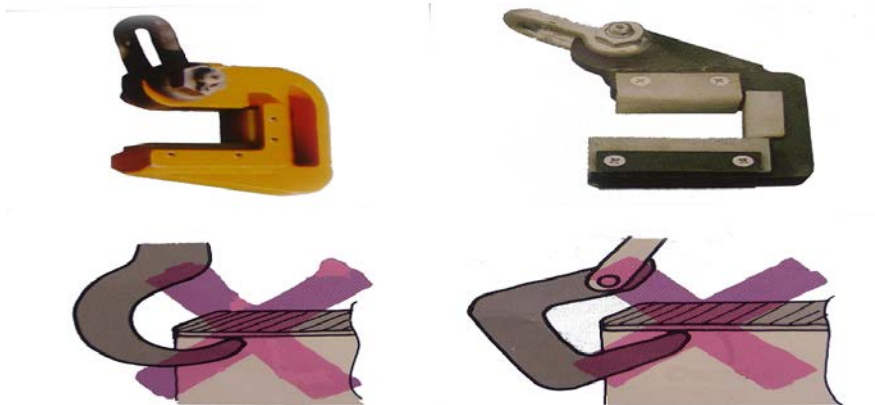
1. Handling, loading and unloading, tranportation and storage of Ductile Iron Pipe

   1.1 Handling, loading and unloading

   Use forklift, crane and overhead crane by belt or specific sling to handle Ductile Iron Pipes and Fittings gently.

   When lift the Ductile Iron Pipes by forklift, lift stably and slowly with protection on the contact face between the forklift and the pipe. Do not let the belt wind the pipe that may make the pipe revolve in mid-air. Do not knock the pipe with other hard objects. Suddenly lifting or stopping is prevented. When lift by crane or overhead crane, use specific lift hook with rubber protection around the steel hook (see Picture 1) or use nylon sling, steel cable with rubber protection to protect the external coating and internal lining of pipes.

Picture 1　Protection for hook

   It is requested to use belt and specific lift sling to handle bundled Ductile Iron Pipes. Do not lift by hooking directly the steel belt. Must make the belt through the bottom of the whole package (do not cross the package). Only hook the socket of pipes by using specific tools. One hook just for one package, must use specific tools when it's needed to lift several packages with one hook, in order to assure the package not be deformed or damaged.

   For single pipe, use specific hook or belt to lift one or several ones at one time. Pay attention to the centre of gravity of pipes and the belt angle when using belt to lift pipes.

   1.2 Transportation

   Avoid making the pipes knock each other during transportation. Pipe socket and spigot of each layer should be put to opposite direction. It's requested strict operation

according to protection and fasten requirement to avoid damage to pipes, fittings and their anti-corrosive coating.

Transportation vehicles: Use forklift or flat truck for short distance while train, truck or ship for long distance. When truck or train is be used, the carriage should be cleaned, and should make a loading scheme according to the capacity of the vehicle.
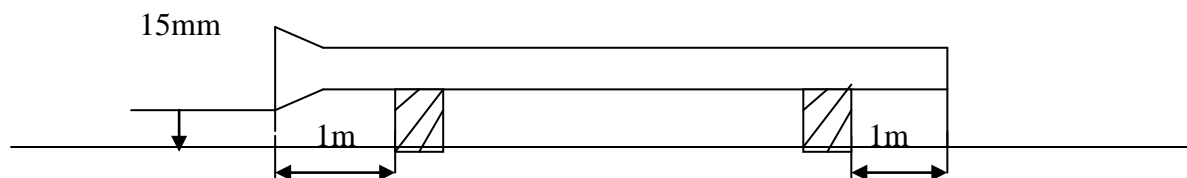

When transport with train or truck, two blocks or more wood should be set up on the plate to avoid direct connecting between pipe socket and the plate. When transport with flat truck, put the pipe on the wood block and then fasten it. When there are more than one layer of pipes, each layer should have the socket and spigot to opposite direction with soft protection between each layer and fasten it with soft protective material, to avoid impact socket-spigot and socket-socket.

After loading, check carefully the loading and fastening of each vehicle, make sure the doors and windows are shut, the bundle is in good condition, and not exceed the limitation.
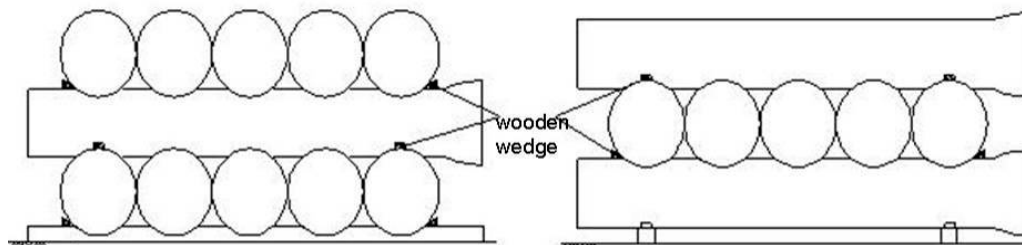
1.3 Storage

The place for storage should be flat and firm. The chock block should be tough. There are two ways of storage: square form and pyramid form.

Picture 2 Chock block

See Picture 3 for square stacking. Put chock block on the bottom, make the axial line of the near two layers to vertical. When the socket are to the same direction on one layer, use wooden wedge for every layer to avoid pipes rolling off. The total

width of each layer should not be more than 5.5m. When on one layer the socket and spigot are in opposite direction, the wooden wedge may not be needed and the total width of one layer should not be more than 6m. Maximum layers please see Table 1.
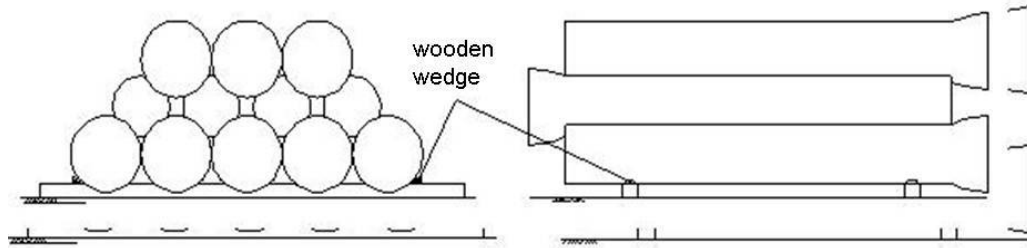

Picture 3 Guide of square stacking

Picture 4 Square stacking

See Picture 5 for pyramid stacking. Put two parallel wooden sleepers on the bottom of pipes. Use wedge to fasten the sleepers. Put one sleeper 1m to the socket and the other 1m to the spigot. Pipes are parallel to each other without connection of socket and the floor. For each layer the socket are to one direction and two near layers are to opposite directions. Socket should be exceeded spigot end.

Picture 5 Guide of pyramid stacking

Picture 6 Pyramid stacking

Table 1 Storage layers

Size	Maximum layers for storage	
	K9
DN80~300	9
DN350~DN400	6
DN500~800	5
DN900~1000	3
DN1100~2200	1

Picture 15 Polyurethane lining