



International Drilling Fluids & Engineering Services (IDEC) Ltd.

Screen Quality Procedure

Scope

This procedure documents the activities and responsibilities of the personnel operating IDEC Shaker Screens to ensure operations meet minimum Health, Safety, and Environmental Standards.

Applicable to all personnel involved in operating the Shaker Screens in a safe manner with no injuries to personnel or damage of screens/equipment.

Safety Equipment Required

All personnel must wear protective equipment as detailed in the appropriate MSDS of the fluid being used on the location, which at a minimum should include safety boots, glasses, gloves, safety helmet, and safety coveralls.

Personnel

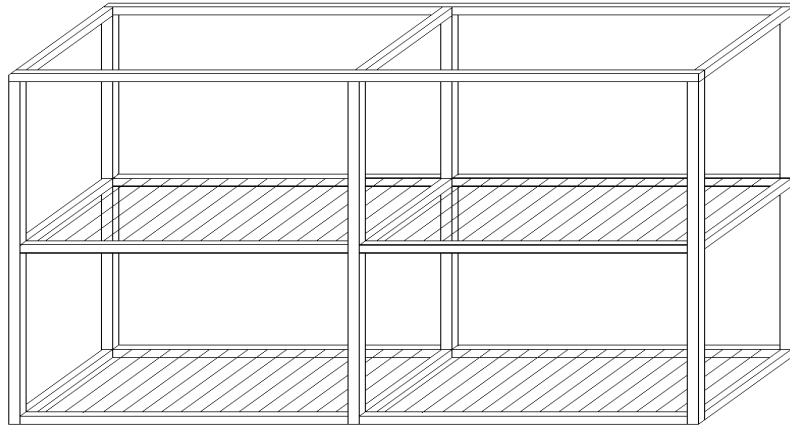
There must be at least two (2) IDEC or client person present who is familiar with the location and the operation of equipment, current operations, and safety equipment.

Shipping Procedure

- Screens are shipped in cardboard boxes and to ensure that the screen is not damaged, they should remain inside the boxes until they are used.
- Screens should always be shipped on a pallet that is equal or greater than the size of the screen box, which will help to protect the screens during shipping. It is also recommended that the screens be shrink wrapped for protection against sharp edges, damp, and excessive heat.
- When the screens arrive at its desired destination each box should be inspected individually for any damage. Any damaged boxes should be reported and the screens within should be fully inspected for any damage.
- All screens being shipped by pickup need to be stacked flat with the label visible. Nothing should be transported on top of the screens as this will result in damaged screens.

Warehouse Storage

- When storing screens, a warehouse with plenty of ventilation is highly recommended. Storing the screens in an airtight container is not recommended as the heat and high humidity level can damage the screen.
- Shelving system with spacing of 120L x 120W x 150H is preferred as this will allow for the biggest screens to be stacked on a pallet to its maximum shipping height. Shelving system can be as high as the maximum height on the forklift
- Do not flat stack more than 15 boxes high.



- Screens should be stored in chronological order first by the type of shaker and then by the API designation.
- All labels on the boxes should be legible and facing out to be easily recognized.
- All damaged screens that are received in the warehouse need to be placed to one side so that they can be documented as per the ISO Damaged screen protocol and then disposed of correctly.
- The screens should be handled on a first in-first out basis. This will minimize the chance of the screens being damaged though long an interval between manufacture and operation.
- Screens returned from the field require to be opened and have a full inspection, even if the boxes are in good condition. This is a requirement before being placed back into inventory.
- Screens are made up of a delicate wire, nothing should be placed on top of the screens other than other screens.
- Any screen boxes that become damaged, wet, or dirty in anyway while in storage need to be opened so that the screen can be fully inspected and re-boxed. A damaged box can result in a damaged screen which is unacceptable.
- The forklift driver and personnel working with the screens should be fully aware of the labelling system and the delicacy in which to handle the screens.
- Screens should be stored in a cool dry place if possible.

Field Storage

- Screen storage on land rigs should be as close to the shakers as possible. It recommended that the screens have plenty of ventilation. Storing the screens in an airtight container is not recommended as the heat and high humidity level can damage the screen.
- When receiving screens all the boxes need to be fully inspected. Any boxes found to be damaged on transportation need to be placed to one side so that the screen can be opened and fully inspected.

- Any screens found to be damaged needs to be documented as per the ISO Damaged screen protocol and then disposed of correctly.
- Screens should be stored in a cool dry climate if possible.
- Screens should be stored in chronological order first by the type of shaker and then by the API designation.
- All labels on the boxes should be legible and facing out to be easily recognized.
- When a used screen needs to be returned to storage it needs to be fully cleaned and repaired where required. Place back in the respective boxes and place in a used pile in the storage area until the screens are needed again.

IDEC Screen API Test Results			
Mesh	API	IDEC Cut Point	Conductance Kd/mm
GLA35H	35	538.61	9.69
GLA35H	40	438.52	8.64
GLA50H	50	284.57	5.17
GLA60H	60	268.12	4.10
GLA70H	70	202.63	3.33
GLA80H	80	193.15	2.76
GLA100H	100	164.81	2.66
GLA120H	120	134.35	1.89
GLA140H	140	101.20	1.34
GLA170H	170	82.80	1.18
GLA200H	200	73.49	1.32
GLA230H	230	68.89	0.71
GLA270H	270	57.70	0.67
GLA325H	325	44.25	0.39

Operation

- It is recommended that a high-pressure wash gun be used to clean the screens. This will maximize the cleaning effect on the screens and minimize the influence water will have on hydration of clays and uncontrolled dilution of the drilling fluid. Wash gun should not be any close than 8” from the screen.
- Screens should be carried in their boxes as close to the shaker as possible to minimize the chances of the screens being damaged before being installed on the shaker.
- During installation avoid touching the mesh with any tools or hands. The delicate mesh can easily be scratch, which will dramatically influence the screen life.
- It is recommended that gloves be worn while handling the screens.
- Ensure that the screens are fully cleaned before installing screens on the shaker. This will minimize the chances of screens getting stuck while removing them and will create a tight seal between the shakers and screens.
- During the operation maintain the screen coverage at 75% allowing 25% of the total screen area for drying the cuttings. This can be maintained with the deck angle and by screening up accordingly.
- When the screen is more than 15% damaged then it is no longer repairable and must be discarded.

Screen Repair Protocols

- During operations, the screens will show signs of wear. When the screen reaches a stage where it needs to be repaired. A replacement for the screen should be installed on the shaker.
- The damaged screen should then be fully cleaned and left to dry. Screens should be cleaned from both the front and back making sure all the cuttings are removed from between the mesh. To maintain the screen life and not cause further damage the pressure washer should be at least 15" away from the screen.
- After the damaged screen has dried it should be repaired before going back into storage. There are two options for repairing preforming screen repairs.
- Option 1 is to use a Silicone base liquid; this is also known as patching. Silicone, urethanes, and epoxies are all used to patch screens and a 24-hour cure time is recommended. When the screen has been cleaned, apply the silicone base liquid over the damaged area making it as thin and smooth as possible, which will minimize the chances of cuttings build up during operation.
- Option 2 is to use screen plugs; this is IDEC preferred option. When placing, a screen plugs carefully remove all the wire mesh from the respective square taking care not to damage the rest of the screen. Afterwards align the plug into the open square from the top, and then push down hard ensuring the plug is pushed in all the way.
- When reusing repaired screens, they should be placed on the discharge end of the shaker. This will minimize the impact of screen plugs.

