# Chapter 28



# Sealing silo

## Each possible entry to the silo must be sealed to avoid contamination.

Sealing must occur in the following situations:

- After cleaning.
- After loading.
- After unloading in cases of dedicated transport.
- After unloading with nitrogen (yellow N2 seals).

#### Be mindful of:

- Always adhere to the same routine when sealing so you do not forget any sealing points.
- Take your time to determine all seal points so you are sure of how many seals you need.
- Request an extra seal to be safe in case you made a mistake in counting the sealing points. All freight documents must be redrafted if you need go back to ask for an extra seal.
- Put seals in numerical order so seal numbers can easily be verified during a check at the loading or unloading address.
- Always verify that the numbers on the seals match those on the CMR or cleaning certificate. All seals stated on the documents must also be attached to the load unit. If this is not the case, the load unit will be rejected which can have major financial repercussions.
- Note: only remove seals in the presence and by order of the customer, all removed seals should be handed over to the customer or left in a

Under no circumstances should seals be thrown on the ground or left on the load unit. Seals are regularly found in the cargo unit; this is a contamination incident and will lead to rejection of the load unit or the product itself.

Most customers use plastic seals, but some customers use steel seals. Van den Bosch has therefore added cutters to all drivers' coupling sets to ensure the proper removal of these seals without damaging the material.

A disagreement between customer and driver is resolved in negotiation. If this does not work, do not continue discussions with the customer, but contact your planner. Do not leave, because then you, the driver, will be held responsible for causing the problem.

**Dedicated transport:** Arrange for at least one copy of the previous CMR with the note that the tank may be reused for the same product (without cleaning). All new seal numbers must be provided and attached.

Always loop all seals completely through and tighten them as much as possible. This is done in connection with re-use monitoring.

**Note:** When inspecting and removing plastic seals, always check that the thin tip is still attached to the seal. If the seal has been shortened then this may indicate fraud or a 'break-in', where the seal has then been cut and reattached. Therefore, seals should be tightened as much as possible.



Seal has been shortened



Seal not tightened properly.

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### Sealing silo trailer and silo container with TIR cable

• The TIR cable must have the attachment loop on both sides and the rubber sleeve must not be damaged. If this is not the case, report this to the 'garage' immediately through the on-board computer. The planner, as well as Fleet Management, will receive the message.



- The TIR cable should always be fully unwound from the storage spool. Never leave several twists in place.
- The beginning and end of the TIR cable must be fitted with a seal through the TIR loop, even if the TIR cable is attached with a steel wire.
- The TIR cable is always under tension between the various sealing points.
   If the cable has too much slack, there is a risk that an access point to the silo can be opened without breaking the seal. This is improper sealing.
- If the TIR cable is too long, pull it through a couple of sealing points several times at the end of sealing until the cable is tight and used up completely. If you really have a lot of cable left, report this as then the TIR cable should be shortened as soon as possible. Possibly the original TIR cable broke and was replaced with a TIR cable from a curtain trailer, for example.
- If your TIR cable is on the short side, check the order of sealing. If the TIR cable really is too short, you can skip points that can be sealed separately and seal those with a separate seal.
- If a sealing point has two rings, a seal is used.
- Never tug on the TIR cable to break the seals; always use your cutter.



# Тор

The cable is all the way off the spool and the fastening loop must be sealed to the spool. The cable passes through the vacuum valve (tighten the lid firmly) and through the non-return valve of the top air duct, then diagonally through the rings of the manhole cover swivels.



Тор

The TIR cable should be pulled diagonally through the swivels and the Storz blind caps should also be incorporated. Make sure the blind caps are tightened firmly with a Silo wrench/ABC spanner. Therefore, make sure to bring that wrench/spanner with you when you climb on top of the silo.



## Тор

At the rear, simply 'run' the cable towards the valve of the upper air line. This prevents damage to the TIR cable.



The TIR cable is threaded through the rings on the back of the load unit and then through the rings of all bolds of the outlet box and through the rings of the transport hose. Finishing at the sealing point of the outlet box with a seal. The outlet box (if present) is sealed on both sides.



Sealing air distribution unit without a TIR cable. Most air distribution blocks have seal points with two rings. Therefore, a seal is used for each sealing point.



Sealing air distribution unit with a TIR cable. Both ends of this TIR cable should be secured to one another with a seal. The seal is applied through both loops of the TIR cable.



Air distribution unit without sealing points. This is only found in the chemical sector.



#### Miscellaneous

- Hose tubes (many hose tubes are accessible from both sides and are therefore sealed on both sides.
- Air duct (all couplings and blind caps).
- Hose tube compressor hose.
- Storage box for unloading elbow.

The following pages show the procedure for sealing a silo container: a good scenario and a bad scenario.

## Proper sealing of a silo container





Ensure the vacuum valve is completely tightened.



- Unwind the TIR cable completely. (An example of what could go wrong if you don't is given later).
- Start with the front manhole cover. Then work 'diagonally'.
- Seal the vacuum valve.
- Seal the air inlet.
- Seal the connection between the hose and the air.



Run the TIR cable through the air hose connection to the air line and through the second manhole cover.



- Seal the 'storz' caps when you encounter them. Make sure the 'storz' blind caps are fully tightened with the silo wrench.
- Ensure the TIR cable is always taut.



- The TIR cable is ran through the manhole covers diagonally.
- Also seal the vent.
- Ensure the TIR cable is always pulled tightly.



• Seal the connection of the upper air line.

• Do not run the TIR cable over the container, instead use the opening of the upper air line.



Seal the connection of the upper air line.
Seal the blind cap on the air line.



- Seal all bolts of the unloading bottom that can be sealed.
- Seal the blind cap of the air agitator connection.
- Seal the outlet box on both sides.

#### Notes

Sealing points may be different on different containers. Use common sense. Do not skip sealing points, always use the same routine. 'Read' the container. If there is no outlet box on the container, do not forget to seal the butterfly valve and the blind cap of the outlet.

The following are some examples of improper sealing.



Vacuum valve not sealed.





Air inlet not sealed. Connection of air inlet to air hose not sealed.





Connection of air hose to air line not sealed.









- Manhole cover not properly sealed. Knot in the TIR cable.
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Air vent not sealed.

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- Air line not sealed.
  - TIR cable on the outside of the crossbeam: high risk of damage to the TIR cable.



- Always unwind the TIR cable off the spool completely.
- If you don't, there is a high risk of someone opening a manhole cover or 'storz' connection without breaking the end seal. This is the same risk as when not tightening the TIR cable properly.