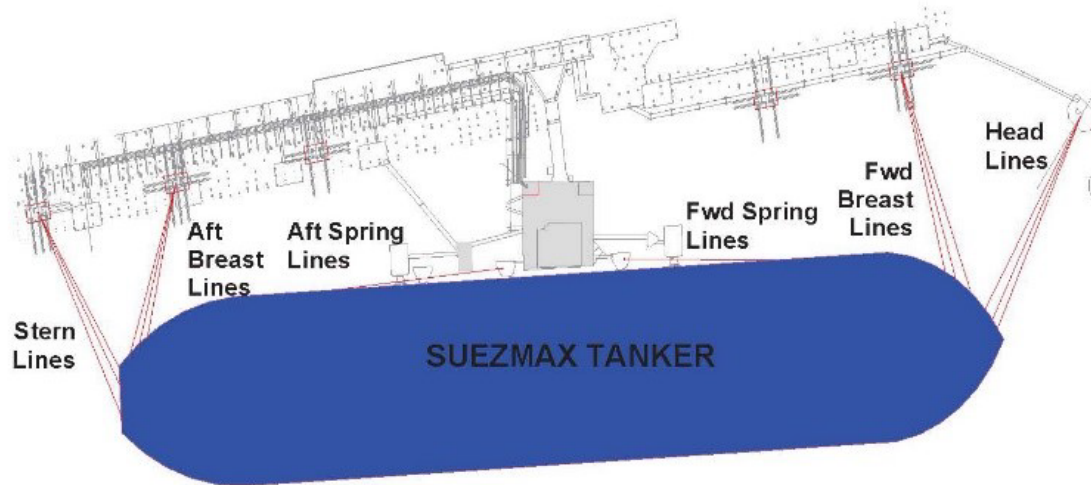


## Recommended Mooring Pattern and Operational Wind Limits ALTONA – GELLIBRAND PIER

### Minimum Equipment Requirements



### ALTONA REFINERY GELLIBRAND PIER

Operating Wind Limits	
	Velocity <sup>(1)</sup>
Stop Cargo Transfer	35 knots
Disconnect Arms	40 knots
Take Special Precautions	45 knots

(1) 20 second gust measured at 10 m elevation

**Notes:**

- Wind limits apply to all wind directions.
- Lines must be tended periodically.
- Additional mooring lines or stronger lines will not increase wind limits.
- Take Special Precautions - terminal shall either deploy additional lines, call in standby tugs, or release vessel.

Minimum Mooring Requirements						
Minimum Mooring Equipment	Stern Lines	Aft Breast Lines	Aft Spring Lines	Fwd Spring Lines	Fwd Breast Lines	Head Lines
Number of Lines	3	3	2	2	3	3
Line Breaking Strength	72 mt MBL minimum					
Line Type	HMF Ropes with tails or Steel Wires with tails					

Vessel Acceptance Criteria	
Max Displacement	179,173 t
Max LOA	286.9 m
Max Beam	50.1 m
Max Moulded Depth	27.0 m
Maximum Draft	14.7 m
Min Fwd PMB Length	38 m
Min PMB Length	51 m