



# Sluisontwerp Södertälje, Sweden – Walter Langedijk Wo. 21-11-2018 Voor en door staalconstructeurs

*Ingenieursbureau met Passie voor Techniek*



# Content



1. Project Södertälje sluis
2. Betrokken partijen ontwerp
3. Ontwerp sluisdeur

Project Södertälje sluis

# Projectlocatie



Södertälje, Zweden





Project Södertälje sluis

# Projectlocatie

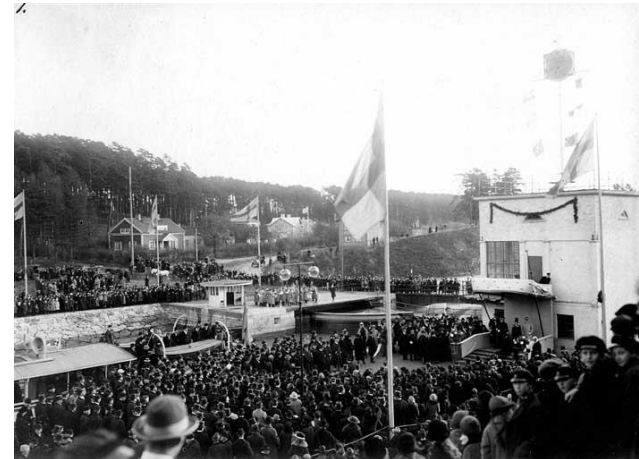
Södertälje sluis, Zweden



Project Södertälje sluis

# Projectlocatie

Södertälje sluis, Zweden





Project Södertälje sluis

# Visualisatie



# Betrokken partijen ontwerp



# Betrokken partijen ontwerp



Klant



Hoofdaannemer



- Sluishoofd en installatie
- Sluisdeuren incl. bewegingswerk
- Onderbouw basculebrug
- Overige staalconstructies



- Basculebrug incl. bewegingswerk
- Hydraulische installaties
- E&I

Andere  
adviesbureaus

- Gebouwen
- Bouwkuipen en grondkeringen
- ...

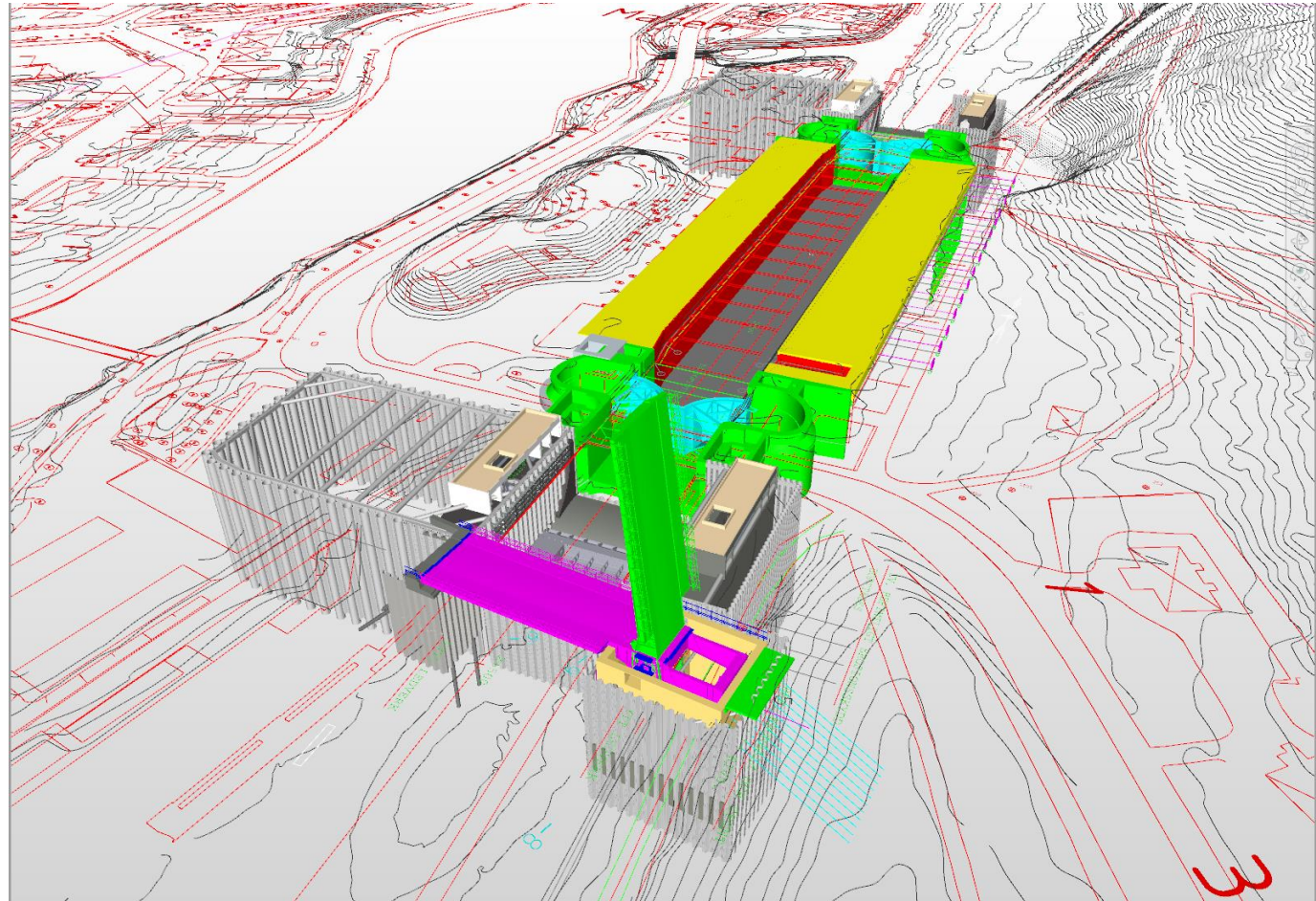


# Sluisontwerp



Ontwerp uitdagingen:

- Invaren sluishoofd

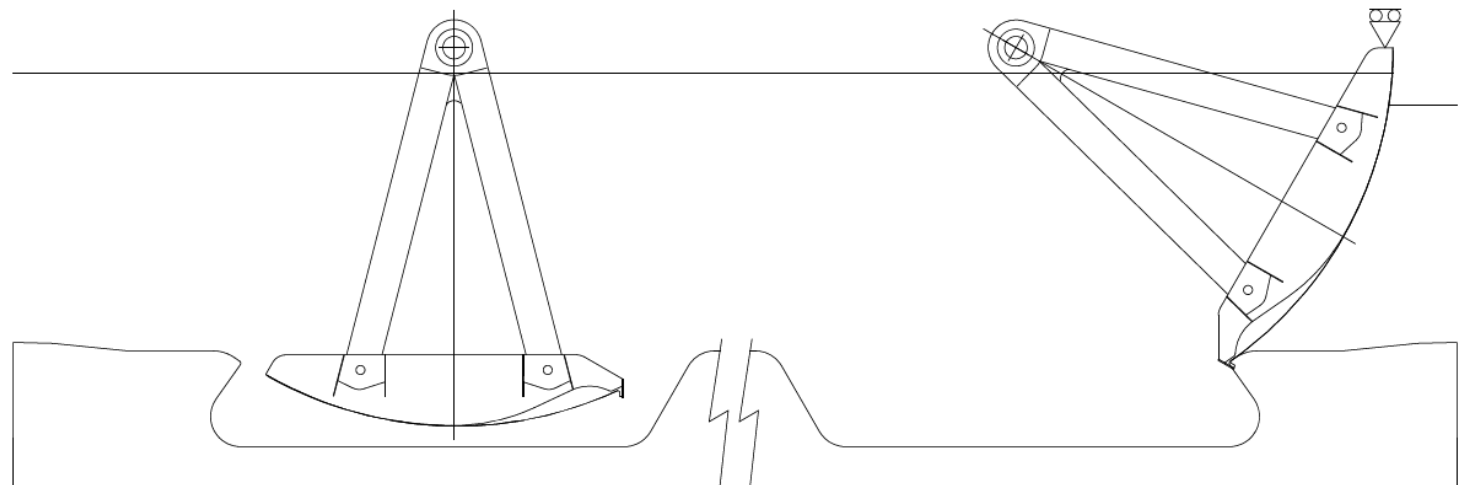


# Sluisontwerp

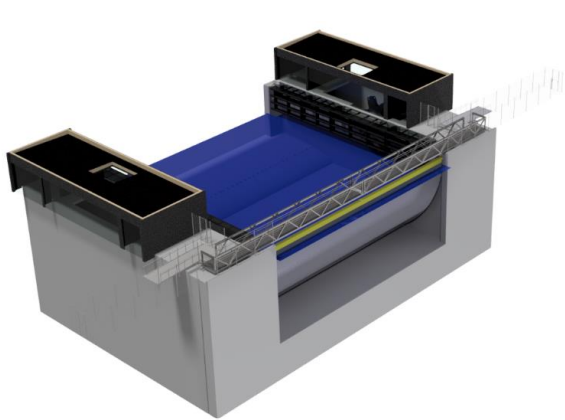


Ontwerp uitdagingen:

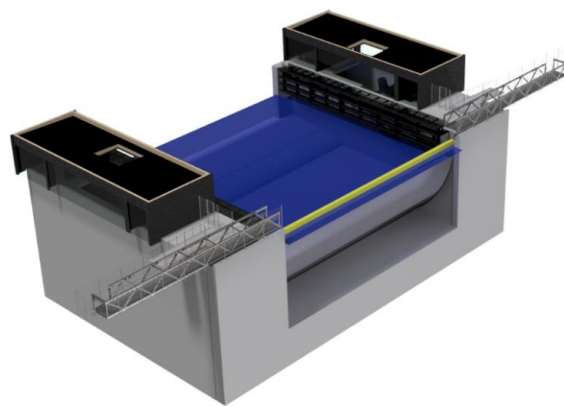
- Invaren sluishoofd
- Segmentdeuren
- Duplex staal



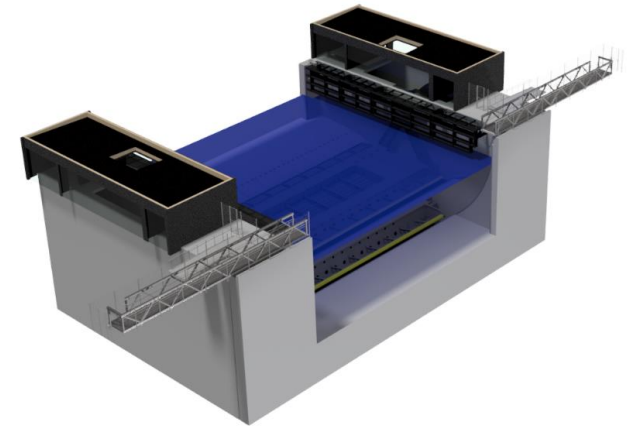
# Sluisdeur posities



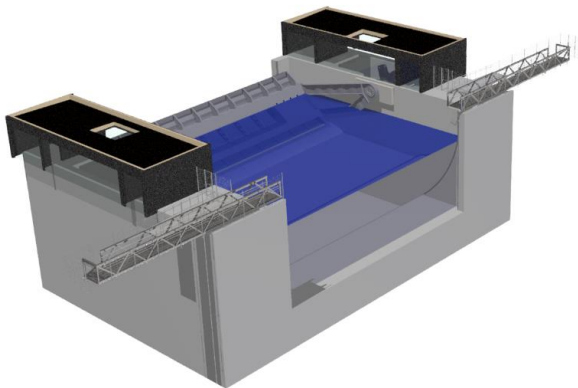
Closed (+60°)



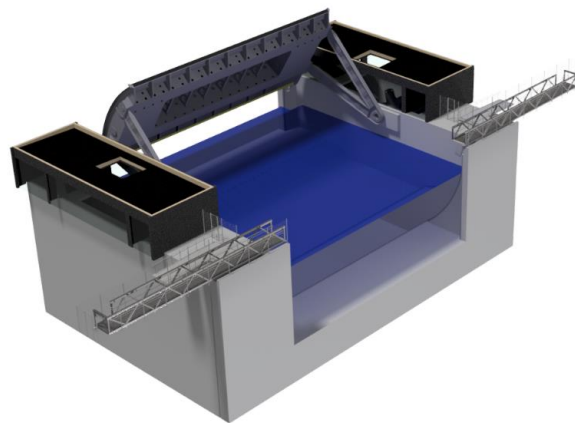
Levelling (+55°)



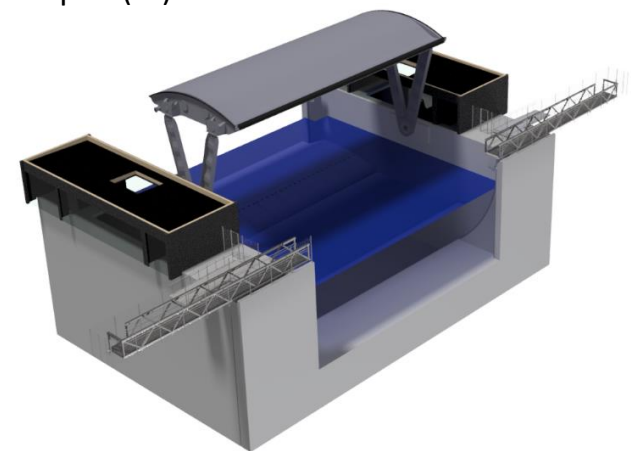
Open (0°)



Maintenance (-62°)



Maintenance (-122°)



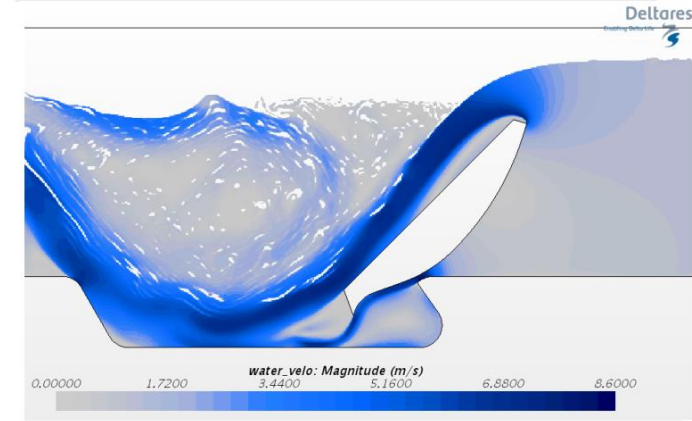
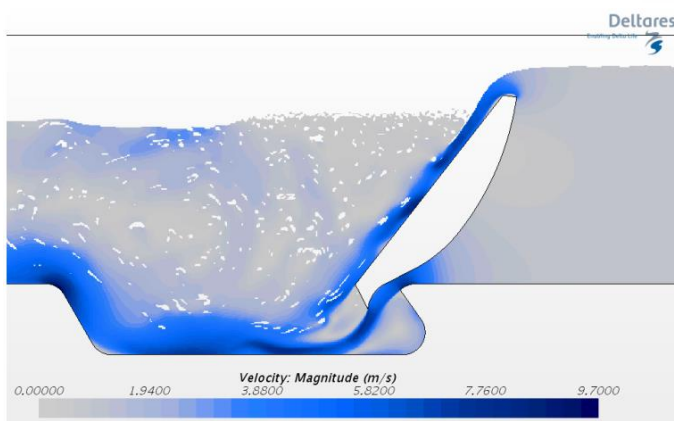
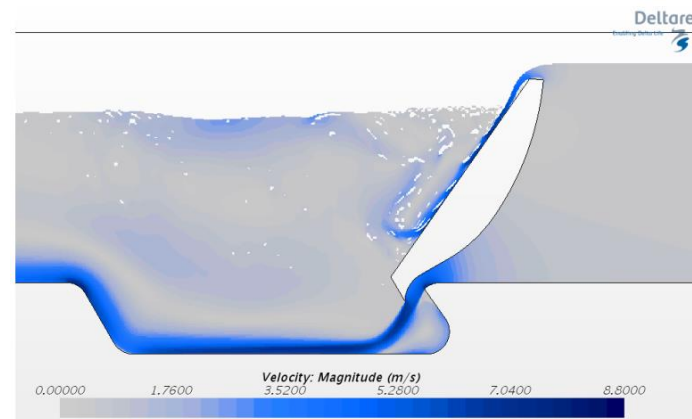
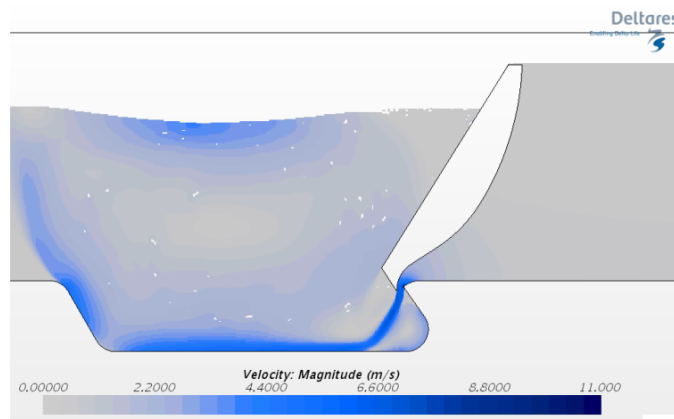
Mounting (-180°)



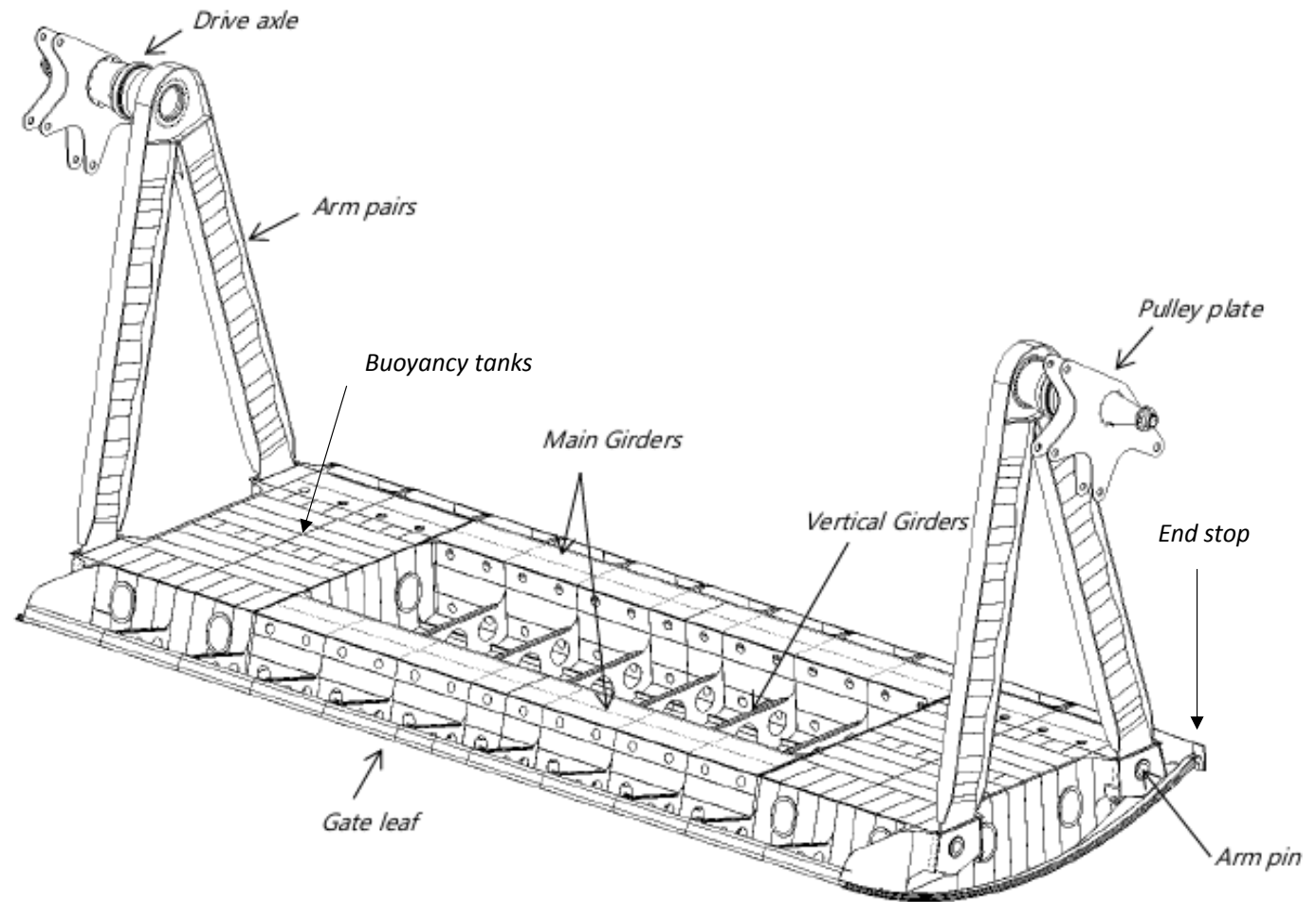
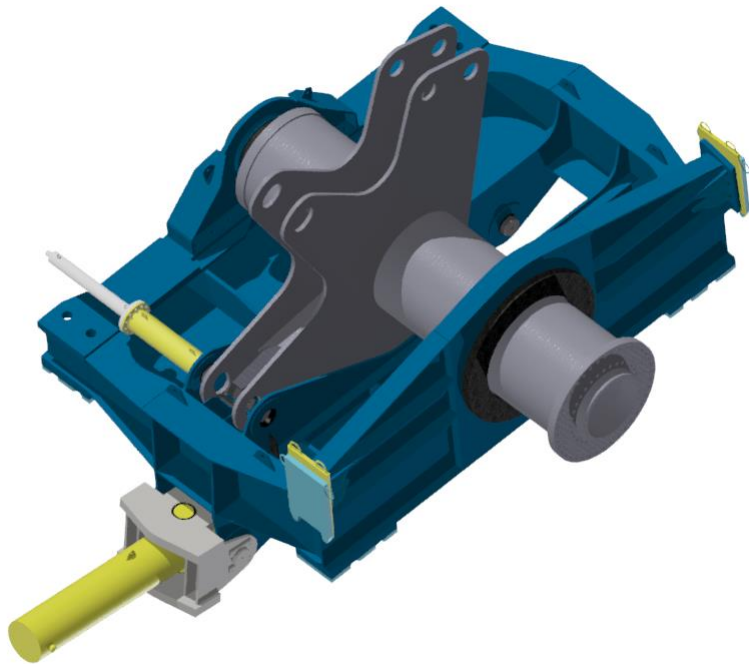
# Sluisdeur posities



Computational fluid dynamics (CFD) - Deltares



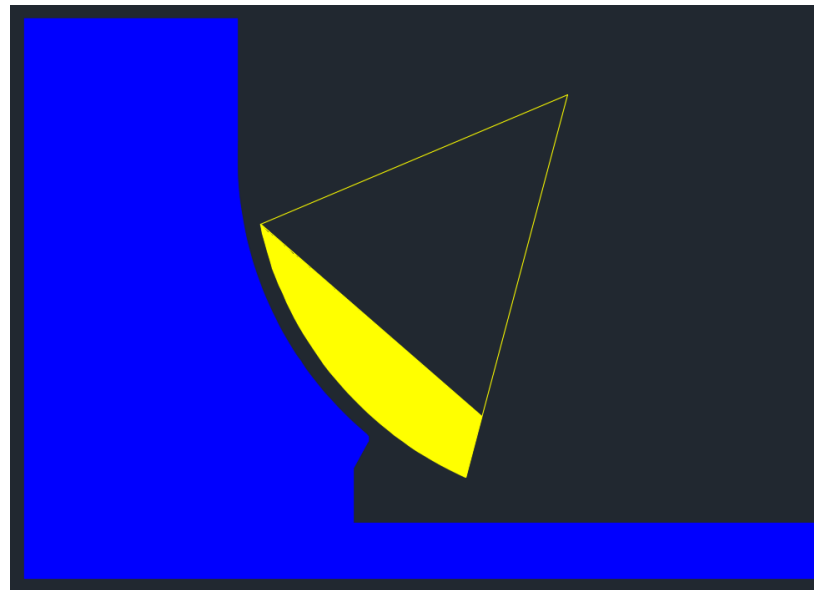
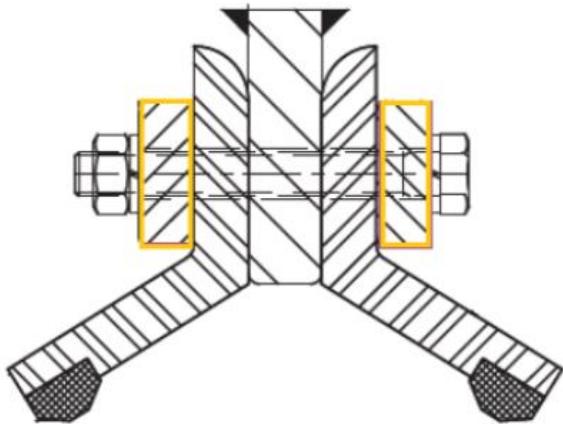
# Ontwerp sluisdeur



# Ontwerp sluisdeur

## Afdichtingen

- Zij afdichtingen
  - Dubbele lip seal
  - Afdichtingsstraal ligt niet in rotatiecentrum -> reductie slijtage

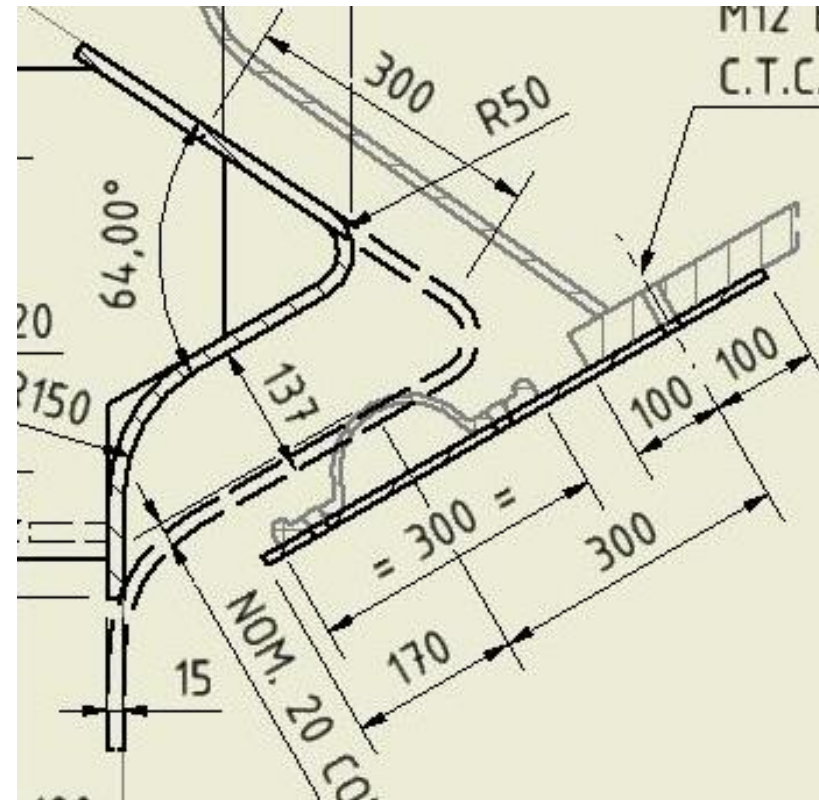
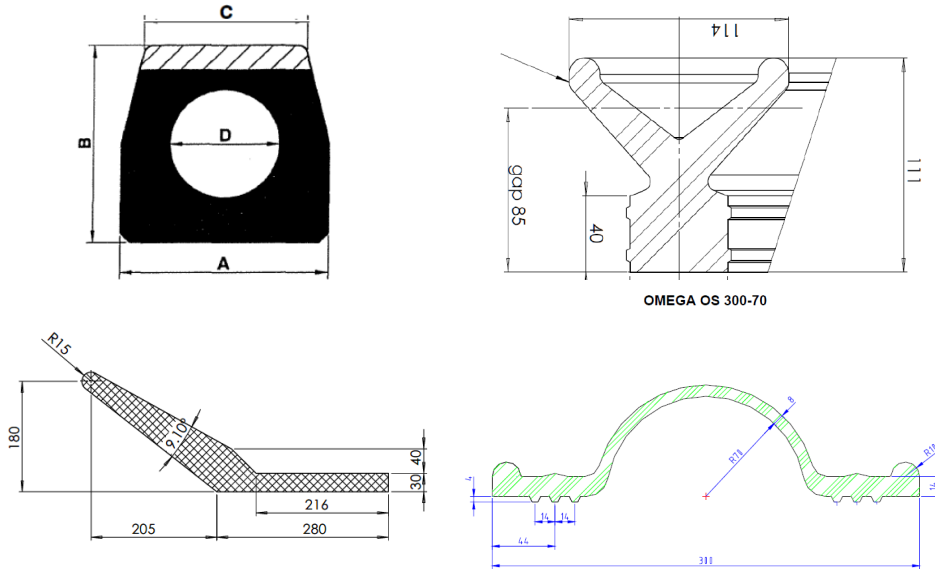




# Ontwerp sluisdeur

## Afdichtingen

- Onder afdichting
  - Varianten vergelijking → Omega seal
  - Hoge vervormbaarheid, lage stijfheid



# Ontwerp sluisdeur

## Bijzondere belastinggevallen

- Eénzijdige aandrijving
- Obstakels (max. cilinderdruk)
- Aanvaring 250 ton, 1 m/s

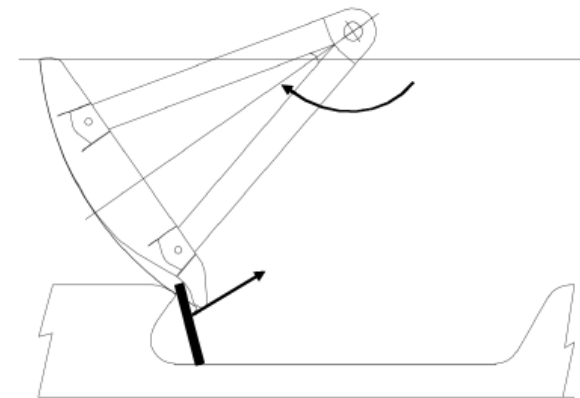
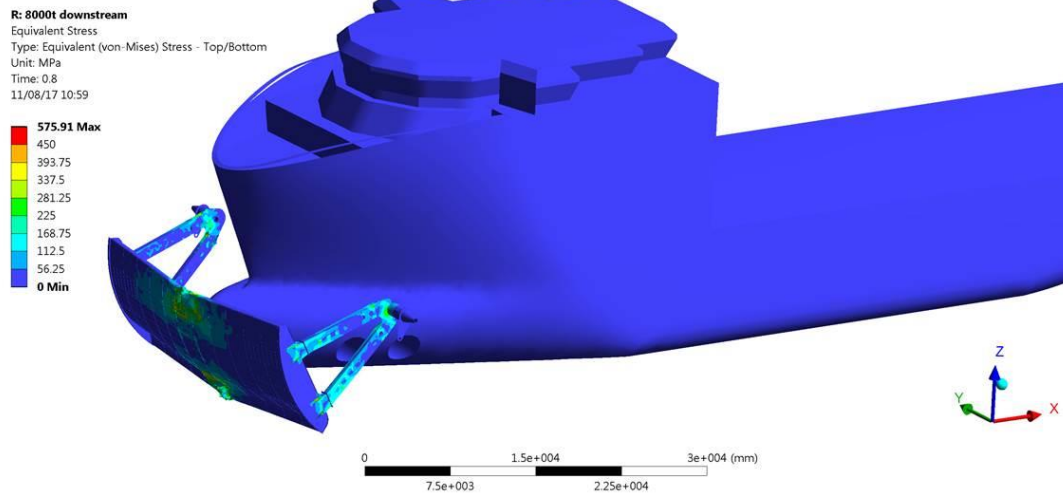


Figure 6-20: Blocking case LC16

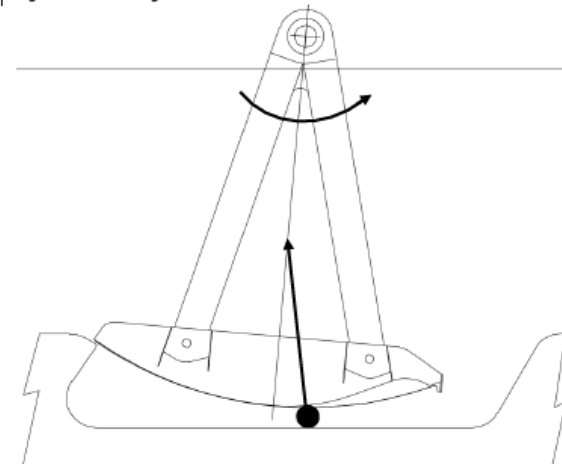
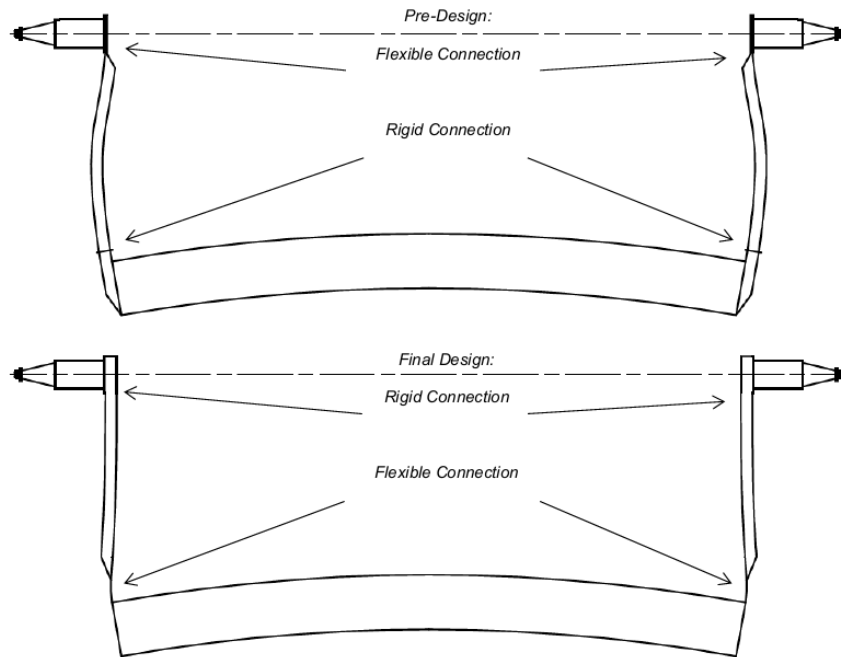


Figure 6-21: Blocking case LC17

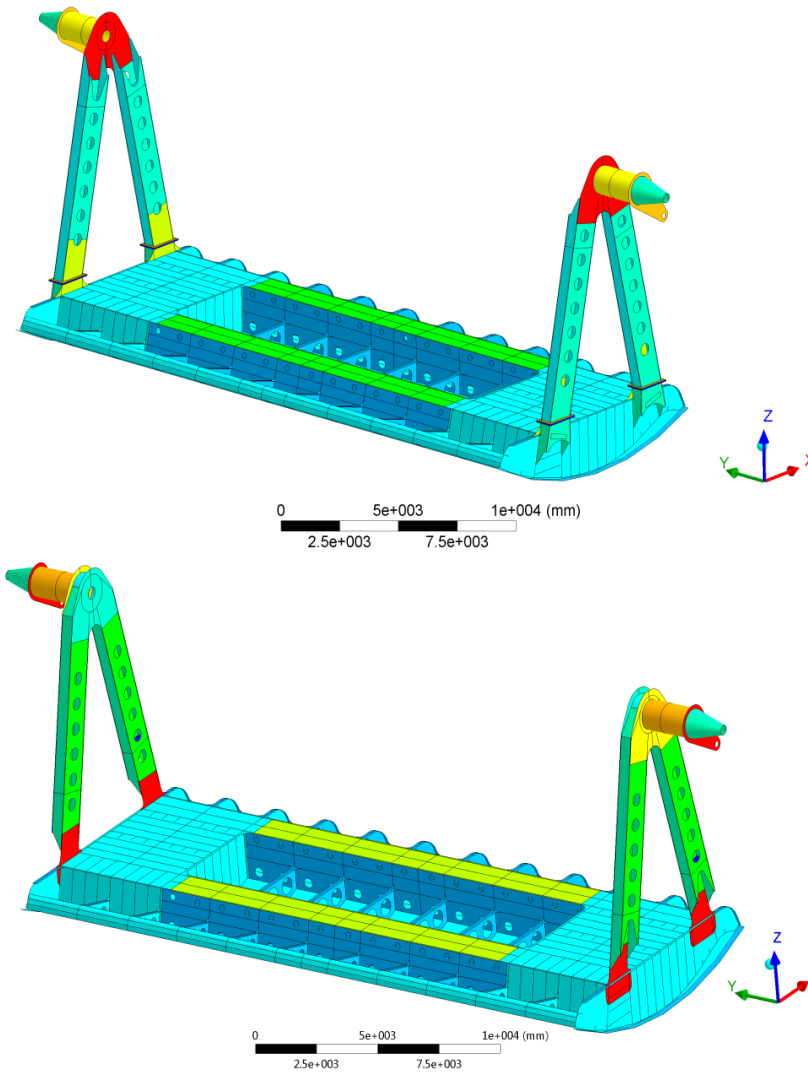
# Ontwerp sluisdeur

## Hoofdverbindingen



Geometry  
20/06/17 9:34

- 60.
- 40.
- 30.
- 25.
- 20.
- 15.
- 12.
- 10.
- 8.











Bedankt voor uw aandacht!