HAGEDORN

Herzlich willkommen bei der Hagedorn-Unternehmensgruppe
Dismantling of foundations and towers – contribution to a sustainable project end
Tuesday, 21. May 2019
OUR DISMANTLING PROCESS

- preparatory activities
  - (dismantling the rotor)
  - dismantling the nacelle
  - dismantling the tower
  - foundation demolition
  - dismantling the blades
    - segmentation of the blades
    - external treatment to Refuse Derived Fuel (RDF)
  - dismantling the hub
  - dismantling the techn. equipment
  - dismantling the Steelsegments
  - Demolition of the concrete-tower
  - scrapping/recycling
    - by wrecking ball
    - cut and lift
    - pinch with scissors
    - blasting
    - by hydraulic hammer
  - Concrete recycling
    - for use in new infrastructures
    - dispose the concrete
OUR DISMANTLING PROCESS

Preparatory Activities

- (dismantling the rotor)
- dismantling the nacelle
- dismantling the tower
- foundation demolition

- dismantling the blades
- dismantling the hub
- dismantling the techn. equipment
- dismentling the Steelsegments
- Demolition of the concrete-tower

- segmentation of the blades
- chiseling with hydraulic hammer

- scrapping /recycling
- rebar
- cut and lift
- pinch with scissors
- wrecking ball
- blasting
- concrete recycling

- for use in new infrastructures
- dispose the concrete

- external treatment to Refuse Derived Fuel (RDF)
cut and lift
tower segments

EXAMPLE

• Enercon E66 situ-concrete-tower (88m)

METHOD

• truck-mounted crane
• cutting team on tower top with concrete saw

PARAMETER

• time- and cost-consuming
• material must be broken
• work safety
• water + electricity
pinch with scissors

EXAMPLE
• Enercon E66 situ-concrete-tower (70 m downwards)

METHOD
• demolition-cable-excavator
• 14-to-demolition-scissors

PARAMETER
• less time- and cost-consuming
• material is broken
• two-men-team only (work safety)
• space saving
wrecking ball

EXAMPLE
• Enercon E82 precast concrete tower (68m hub height)

METHOD
• demolition-cable-excavator
• wrecking ball

PARAMETER
• high demolition performance
• material is broken
• two-men-team only (work safety)
• space saving
• coupling flange?
wrecking ball

EXAMPLE
• Enercon E82 precast concrete tower (68m hub height)

METHOD
• demolition-cable-excavator
• wrecking ball

PARAMETER
• high demolition performance
• material is broken
• two-men-team only (work safety)
• space saving
• coupling flange?
blasting a tower

EXAMPLE
• Vestas V66 / Möhnesee (accident)

METHOD
• blasting with dynamite

PARAMETER
• mid demolition performance
• work safety: sentry
• fixed time
• high organisation degree: close roads, sentry
• build and rebuild a falling bed
• aproval from neigbors and authorities
• residual materials (oil...) in case of accident
chiseling the foundation

METHOD
• excavator 40 upto 90 to
• hydraulic hammer 3,5 upto 8 to

PARAMETER
• 40 m³/day
• often harder concrete
• high degree of rebar
• flange ?
• coatings ?
blasting of foundations

METHOD
• blasting by dynamite
• 40-to-excavator
• hydraulic hammer 3,5 upto 8 to

PARAMETER
• destroyed composite
• extra transports for drilling unit
• often harder concrete
• high degree of rebar
• flange ?
• > 250 m³ temporal advantage
• > 500 m³ financial advantage
blasting of foundations

METHOD
- blasting with dynamite
- 40-to-excavator
- hydraulic hammer 3,5 upto 8 to

PARAMETER
- destroyed composite
- extra transports for drilling unit
- often harder concrete
- high degree of rebar
- flange ?
- > 250 m³ temporal advantage
- > 500 m³ financial advantage
recycling the concrete

METHOD
- crusher
- crushing bucket

PARAMETER
- crusher: 2,000 to/day
- bucket: 100 - 200 to/day
- evaluation of transport cost and time
Holistic Concept

• for use in infrastructure

• for use in recycling concrete in future ??

• example:
  10 E66 wit concrete tower
  > 25,000 to of concrete
  > 1,000 (!!!) truck loads
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Thanks for Your attention!