FINNSEMENTTI
A CRH COMPANY

Vakavien tapaturmien ennaltaehkäisy - Projekti- / Kunnossapitoesimerkki

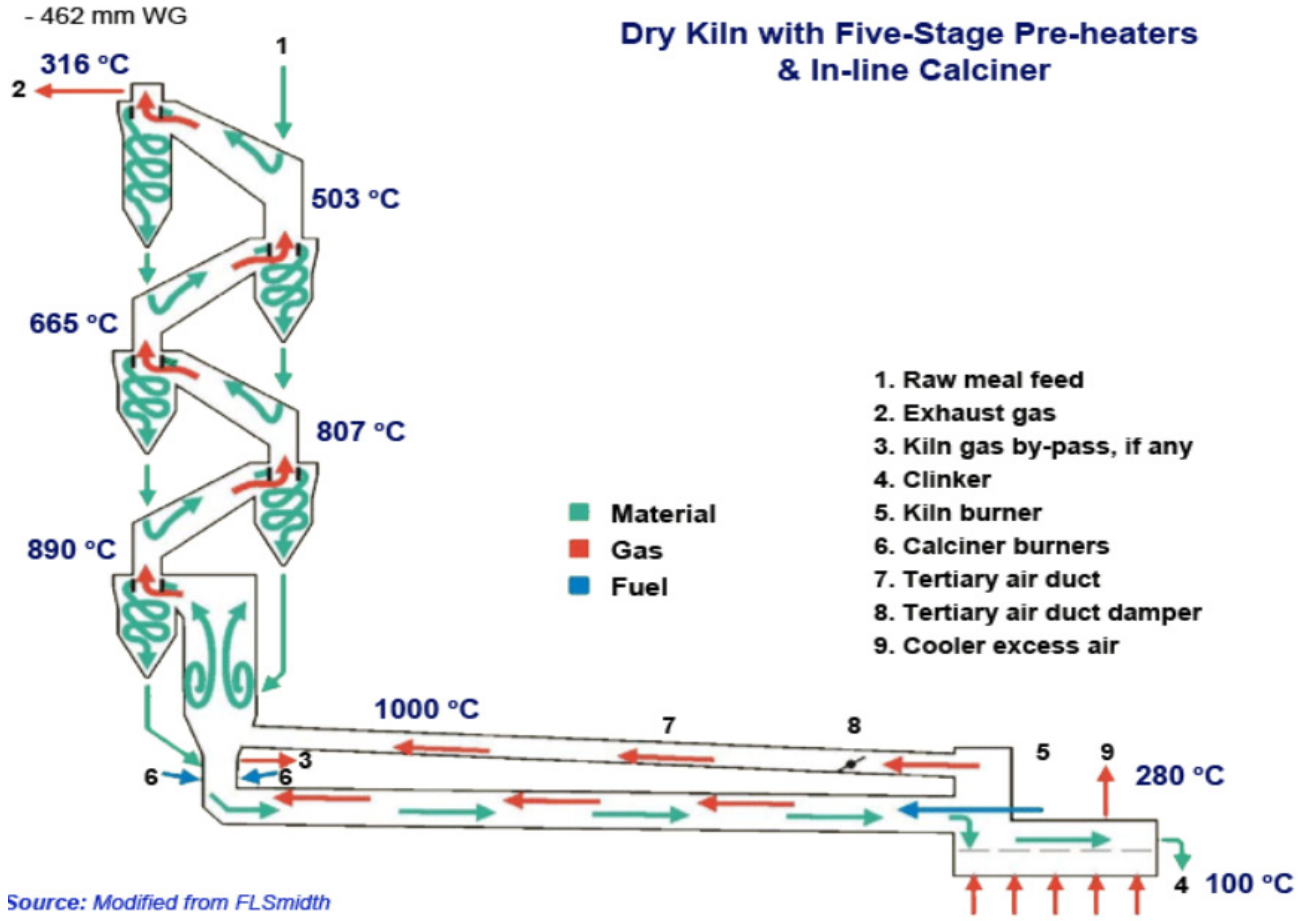
Jari Porkka
11.5.2023

SISÄLTÖ

1. Lappeenrannan tehtaan klinkkerituotanon prosessi ja SRF Projektin rajaus
2. Projektin haasteet
3. Projektin turvallisuusjohtaminen
4. Projektin turvallisuusjohtaminen ja sen hyödyt lyhyesti

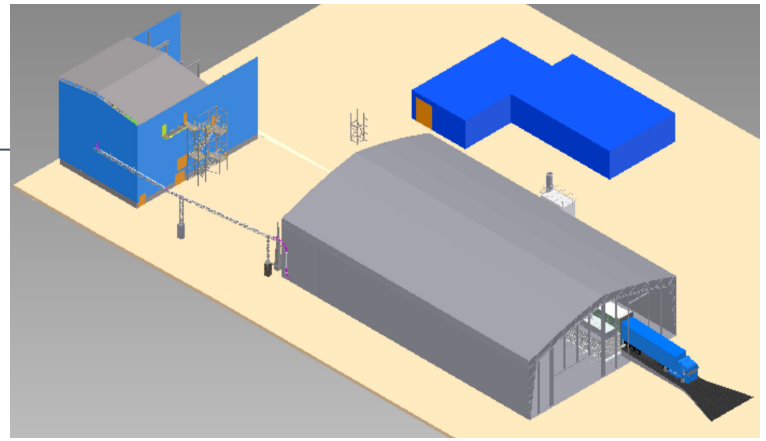
Lappeenrannan tehtaan klinkkerituotanon prosessi ja SRFProjektin rajaus

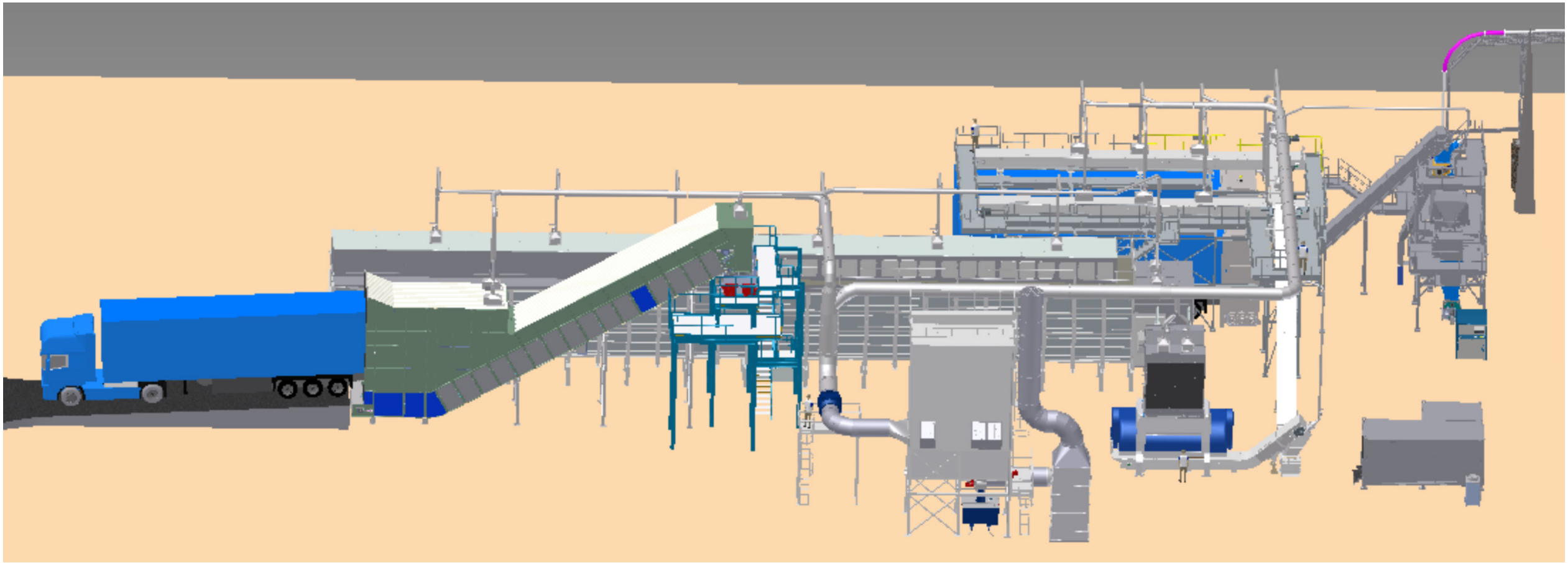
Klinkkerin tuotanto



Source: Modified from FLSmidth

SRF polttoaineen syöttöprojekti





Projektin haasteet

4

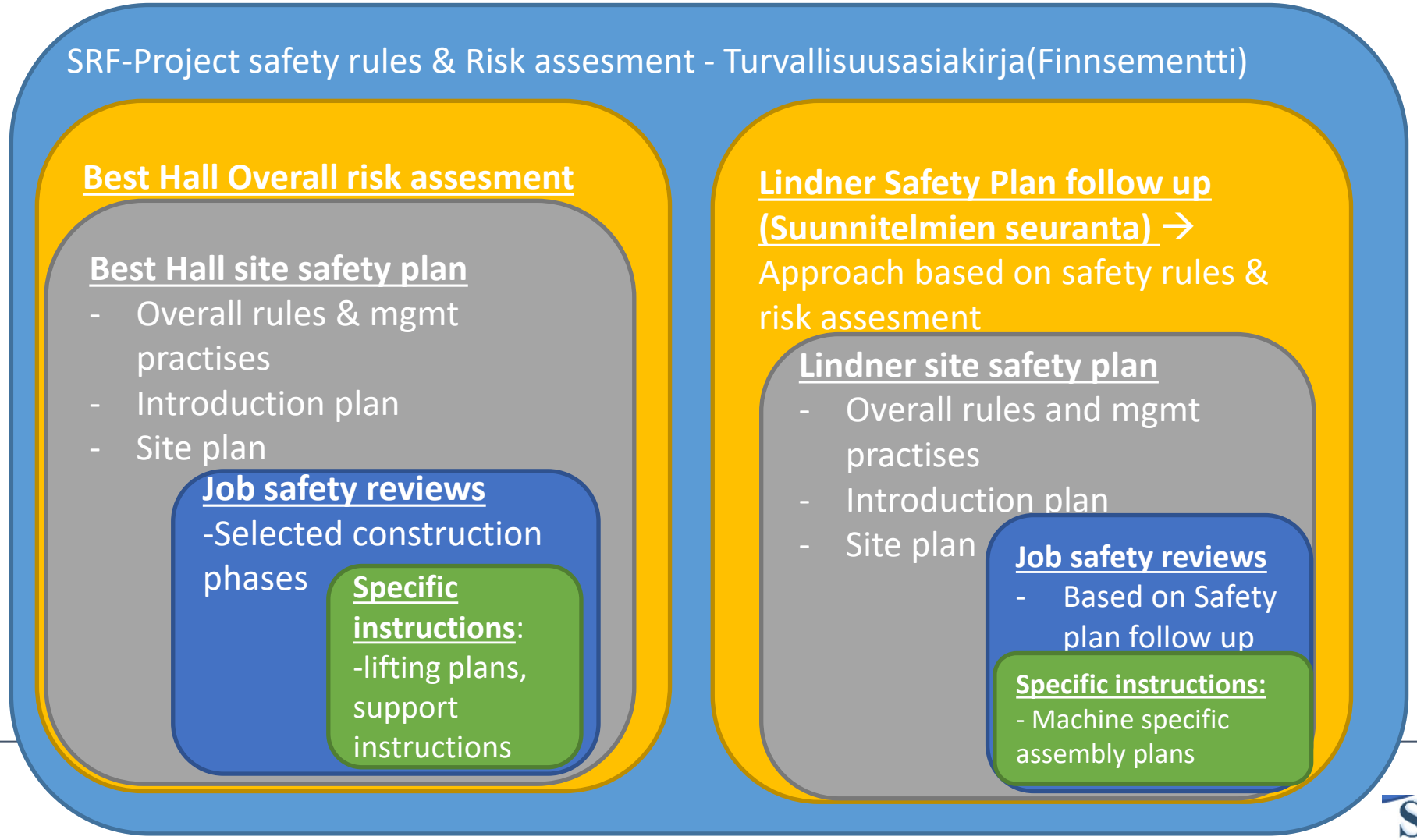
Projektin haasteet

- Projektin toteutus prosessin käydessä
- Projektin sisällä kaksi kokonaisuutta
  - Rakennus
  - Laitetoimitus/asennus
  - → miten vastuut ja vastaavan työnjohtajan rooli
- Ulkomainen toimittaja, joka tehnyt aiemmin projekteja Finnsementille → vanhat oletukset
- Korona, joka aiheutti toimitusten viivästyksiä
- Miten pysytään aikataulussa

Projektin turvallisuusjohtaminen

3

Turvallisuussuunnittelu ja Johtaminen



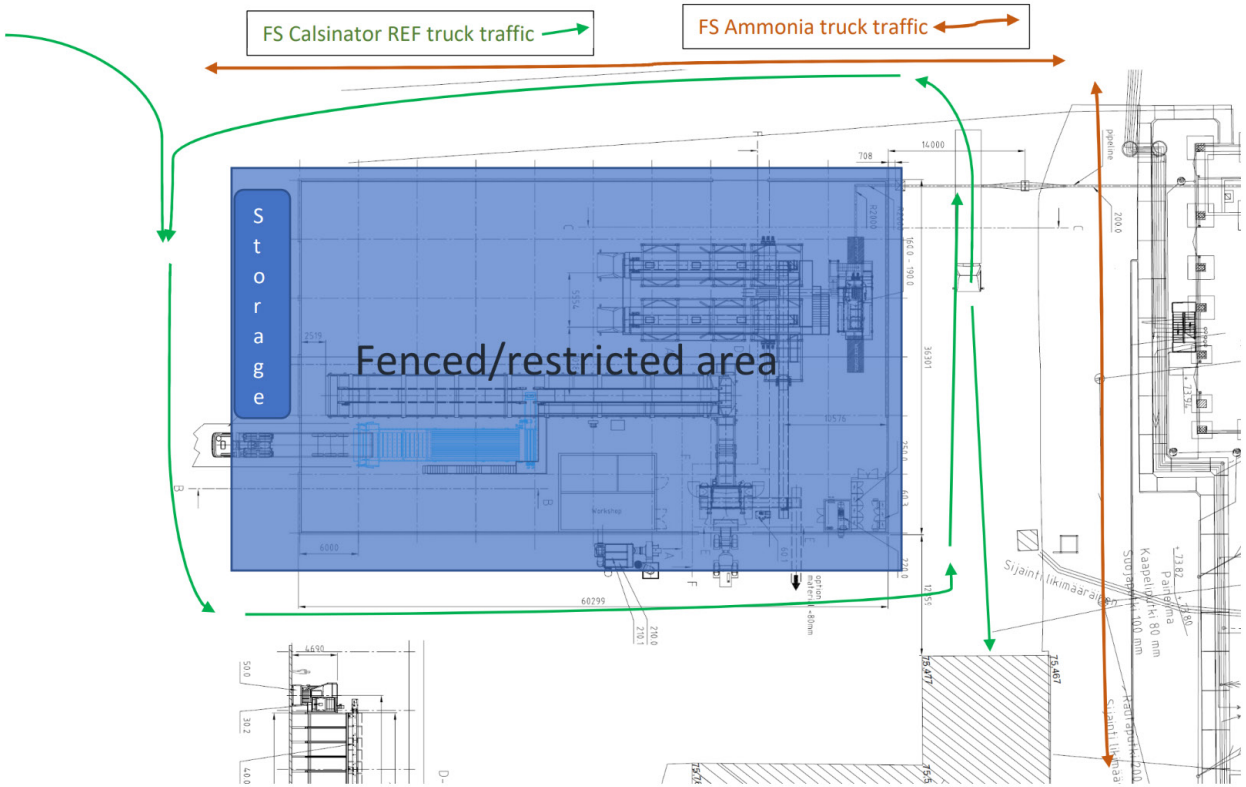
Lähde: Sinenkaari Oy, Olli Airaksinen 2023

SINENKAARI

Turvallisuus osana kokonaisprojektia

- Lähtökohtana Suomen laki ja CRH Life Saving Rules
- Osallistetaan suunnittelija miettimään myös asennusta
- Riskikartoituksen mukaan määritä kokonaisuudet jotka vaativat erillisen työtapaselostus (kaikki taakan siirrot, nostot, tuennat, korkealla työskentely, tasot, aukot)
- Tee työtapaselostus hyvissä ajoin, jotta pystyt varaamaan tarvittavan henkilöstön, työkalut, materiaalit sekä nostoapuvälineet
- Valvo, että suunnitelmia toteutetaan → aloita heti alussa tiukasti
- Säännölliset auditoinnit ja palautteet
- Riskiarvio suunnitelmasta poikkeamiseen

Turvallisuus osana kokonaisprojektia – Aluesuunnittelu



Finnsementti Calsiner REF and Ammonia truck traffic transport routes always have to be maintained available.

Transport routes are described with green and orange lines

Riskikartoituksen toimenpiteiden seuranta

FINNSEMENTTI

Lappeenranta SRF Feeding line

Needed safety plans

Work number

	Not needed(Explain basis as comment)
	Needed
	More complex plan needed
	Work in Progress
	Done
	Done more complex plan

Version V01

Updated 8.6.2022

Done by **EbenbergerE**

	Device Code	latest delivery	Device Name	Pre-installation	Preinstallation	Installation	Installation	Responsible person
	15003930-*	date		JSR	lifting plan	JSR	Lifting Plan	
1			prework for mechanical installation					Gietler Horst
2		1.8.2022	steel plates for asphalt ground			finished		Eric Ebenberger
3	.0390	17.10.2022	steel constr. 1st part - MULTIFLEX system					Eric Ebenberger
4	.0400	15.8.2022	MultiFlex system					Eric Ebenberger
	.0421	21.8.2022	Rotary valve - MULTICELL			finished		Eric Ebenberger
5	.0391	15.8.2022	steel constr. 2nd part - MULTIFLEX system					Eric Ebenberger
6	.0380	15.8.2022	magnetic drum			finished		Eric Ebenberger
7	.0320	15.8.2022	EcoDock station 1			finished		Eric Ebenberger
8	.0340	15.8.2022	EcoDock station 2			finished		Eric Ebenberger
9	.0360	15.8.2022	drag chain conveyor - MultiFlex					Eric Ebenberger
10	.0310	1.8.2022	steel construction 1st part - WF-trucks			finished		Eric Ebenberger
11	.0311	15.8.2022	steel construction 2nd part - WF-trucks			50 %		Eric Ebenberger
12	.0280	12.9.2022	feeding drag chain conveyor 1 - WF-trucks					Eric Ebenberger
13	.0300	12.9.2022	feeding drag chain conveyor 2 - WF-trucks					Eric Ebenberger
14	.0260	12.9.2022	distribution drag chain conveyor					Eric Ebenberger
15	.0240	1.8.2022	drag chain conveyor to feeding stations			finished		Eric Ebenberger
16	0.220	1.8.2022	discharge drag chain conveyor PK2800			Finished		Eric Ebenberger
17	.0200	12.9.2022	Power Komet 2800			90 %		Kari Strandvall
18	.0203	12.9.2022	FireFly system					Eric Ebenberger
19	.0130	17.10.2022	Steel construction - BG Optibulk			50 %		Eric Ebenberger
20	.0120	12.9.2022	Double screw conv. - BG Optibulk			70 %		Eric Ebenberger
21	.0101	17.10.2022	Chain belt conveyor - BG Optibulk			70 %		Eric Ebenberger
22	.0100	17.10.2022	housing - BG Optibulk			70 %		Eric Ebenberger
23	.0180	1.8.2022	Chain belt conveyor ChainCon					Eric Ebenberger
24	.0140	1.8.2022	Storage bunker MFB 550					Eric Ebenberger
25	.0160	10.10.2022	Moveable belt conveyor FlatCon					Eric Ebenberger
26	.0150	10.10.2022	Covering - bunker MFB 550					Eric Ebenberger
27	.0151	10.10.2022	Platform - bunker MFB 550					Eric Ebenberger
28	.0180	1.8.2022	Chain belt conveyor - bunker MFB 550					Eric Ebenberger
29	.0443	10.10.2022	Filter - dedusting system					Eric Ebenberger
30	.0441	10.10.2022	Ventilator - dedusting system					Eric Ebenberger
31	.0444	10.10.2022	Sound absorber - dedusting system					Eric Ebenberger
32	.0442	10.10.2022	Rotary valve - dedusting system					
33	.0445	10.10.2022	Piping - dedusting system					Eric Ebenberger
34	.0424	10.10.2022	piping - MultiFlex system					Eric Ebenberger
35	0.600	10.10.2022	compressed air piping					Eric Ebenberger
36		10.10.2022	Completion work plant					Eric Ebenberger
37	.0510	12.9.2022	Container - control cabinet					Eric Ebenberger
38	.0511	12.9.2022	Container - FireFly system					Eric Ebenberger
39		10.10.2022	Cabling plant					Eric Ebenberger
40		10.10.2022	Electrical connection plant components					Eric Ebenberger
41		28.11.2022	no load test					Eric Ebenberger
42		28.11.2022	warm commissioning, load test					Eric Ebenberger
43		13.12.2022	performance test					Eric Ebenberger
44		1.8.2022	General plan for the site area					FINNSEMENTTI

Riskikartoituksen toimenpiteiden seuranta

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Job Safety Review –part 1 & 2

Job Safety Review Form

Date:	**Reviewed by:**				**Workers Name:**
Job Describtion:				1.	GIETLER Horst
Mechanical installation of belt conveyor Pos.160				2.	KOVACEVIC Dzenis
				3.	JURICA Flis
				4.	
				5.	
				6.	
Permits Required:	Y\N	**Inspection Required:**	Y\N	7.	
LOTOTO:	N	Lifting:	Y	8.	
Hot Work:	N	Crane:	Y	9.	
Hoisting\Rigging:	Y	Mobile Equipment:	Y	10.	
Confined Space:	Y	Ladders:	Y	11.	
Digging\Excavation:	N	Scaffolding:	N	12.	
Chemical dangers:	N	Equipment:	N	13.	
		Tools:	Y	14.	
Other:	N	Other:	N	15.	

Additional Comment: other applicable requirements of Finnish working act, Finnish safety regulation, plant specific safety regulations and procedures	Check PPE required at the plant and PPE required for the specific task. Remember, if task includes hoisting\rigging\lifting, you always need to restrict the area Operators of machinery need to have the right qualifications

Sequence of Job Tasks:	**Hazards\Risks:**	**Harm:** (Possible Harmful Consequences)	**Control Measures:** (including additional PPE for each task)
Connect belt conveyor and bring it at place	Falling of parts, squeezing, traffic on site	Damage to personnel, damage to material	Lift the belt conveyor (weight appr. 5.000kg) with 2x telehandlers 5t and shown equipment, attach to the provided lifting points **(Pic 1).** Drivers should use radios to cordinate the lifting of the conveyor ! **Secure the lifting area during the lifting process !**
Position belt conveyor at installation place	Falling of parts, squeezing, traffic on site	Damage to personnel, damage to material	Bring the belt conveyor with 2x telehandlers 5t to the installation place **(Pic 2).** Drivers should use radios to coordinate the driving to the installation place. Worker at the scissor lift must give the required instructions for the correct positioning of the conveyor (by using of radio). **Secure the lifting area during the lifting process !**

Chains On:		Hoses Coiled Up:		
Tools Returned:		PPE Not Left:		
Ladders Returned:		Equipment Checked:		
		Equipment Tested:		

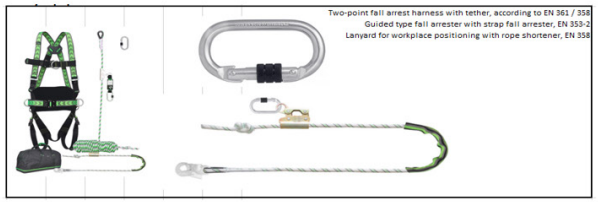
INSTALLATION ACC: MANUEL "48492-50" (WESTERIA)

forklift 5to

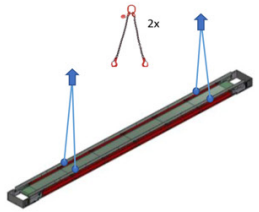
telehandler 5t

scissor lift (height 8m)

Safety equipment - STOPS FALLING !

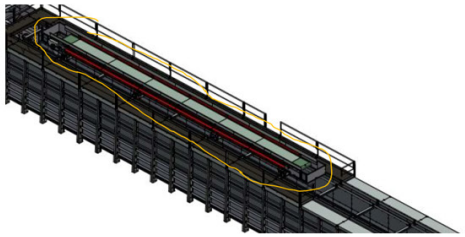


Picture 1



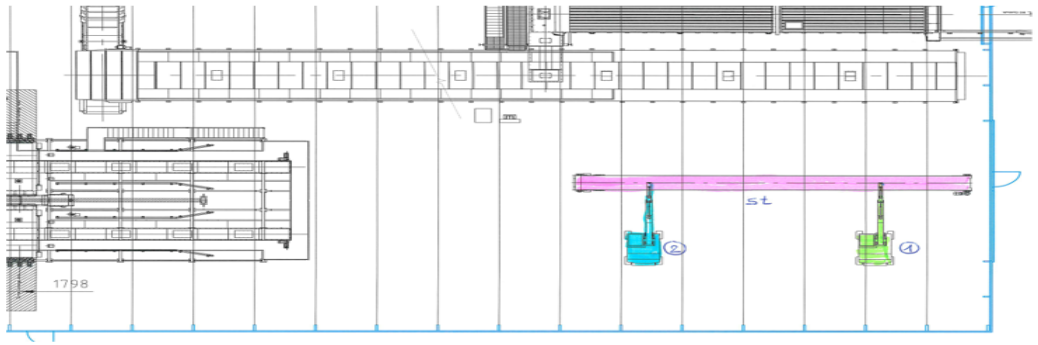
appr. 5.000kg

Picture 2



Job Safety Review –part 3

LIFTING PLAN - BELT CONVEYOR Pos. 160



Step 1

Connect belt conveyor to telehandlers and lift it up

The driver of the green telehandler (1) gives the necessary order / instructions to the driver of the blue telehandler (2).

Step 2

Drive with belt conveyor to installation place

Guy at the scissor lift gives the required instructions with radio to driver 1 at the green telehandler (1).
The driver of the green telehandler (1) gives the necessary order / instructions to the driver of the blue telehandler (2).

Step 3

Position the belt conveyor at the correct place

Guy at the scissor lift gives the required instructions with radio to driver 1 at the green telehandler (1).
The driver of the green telehandler (1) gives the necessary order / instructions to the driver of the blue telehandler (2).

Projektin turvallisuusjohtaminen ja sen hyödyt lyhyesti

5

Turvallisuusjohtaminen osana suunnittelua

- Lyhyempi turvallinen asennusaikataulu
- Vähemmän yllätyksiä
- Parempi kustannushallinta

Turvallisuusjohtaminen osana suunnittelua

Kiitos

Jari Porkka

Finnsementti Oy

Projektipäällikkö