# A SUSTAINABLE PARTNER

# STAINLESS STEEL V.S ALUMINIUM





The UN's global goals require us to switch to sustainable construction to reduce climate pressure. The best and most efficient way to reduce the CO2 footprint is to build more in wood.

Valutec's dry kilns enables an increased use of wood. We constantly strive to develop innovative and sustainable solutions to further improve our wood dryers and intelligent control systems. Value-creating solutions that make it possible to take advantage of the raw material's full value. In other words, we believe in wood and want to help make wood the preferred choice for construction and joinery products.





### **INDUSTRY, INNOVATION & INFRASTRUCTURE**



**9.4 "Adapt industry to make it more sustainable"** There is sustainability thinking behind Valutec's materials choices. For example, our kilns are built using stainless steel instead of aluminium to maximise product lifespan and minimize the CO2 footprint. Thanks to our well-designed kilns, heat recovery and smart control systems, we offer a sustainable drying process with minimal energy consumption and maximum value yields.

## 9.5 "Enhance scientific research & upgrade the industry's technological capabilities"

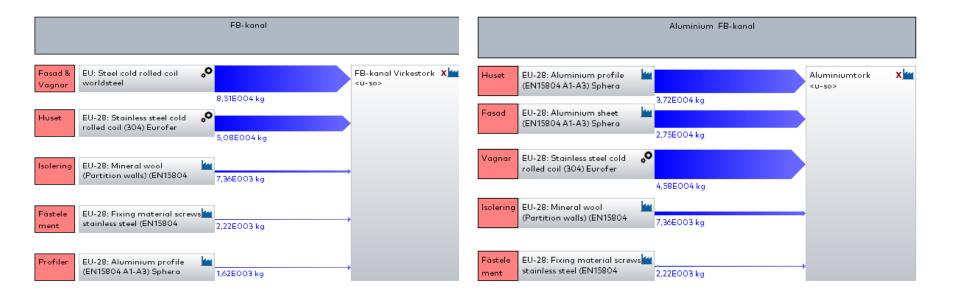
Every year, five per cent of Valutec's net sales goes to R&D, which usually takes place together with the industry and/or a technological Institute.

## **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



### VALUTEC FB-KANAL SS vs ALUMINIUM





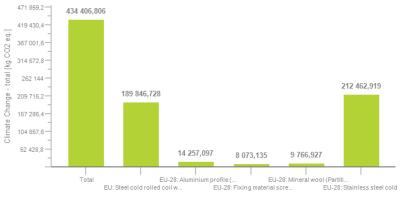


## VALUTEC FB-KANAL SS vs ALUMINIUM



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Climate Change total



838 860.8-772 960,918 734 003,2 eq.] 80 629 145,6 total [kg | 524 288 419 430,4-326 227,655 Char 314 572,8-237 180,216 191 712,985 a Climat 209 715.2 104 857,6 8 073,135 9 766,927 Total EU-28: Aluminium sheet (E. EU-28: Mineral wool (Partiti. EU-28: Fixing material scre.. EU-28: Stainless steel cold

**Climate Change total** 

Stainless steel, lifespan >40years

## Aluminium, lifespan <20 years



## 100% VALUTEC RECYCLED FB



#### CO2 per material:

Steel 172 361kg\* Aluminium 1 141kg\*\* Mineral wool 9 767kg

Total = 183 tons CO2e\*\*\*

\*Based on Stena Recycling: 58% of CO2 is saved with recycled steel compared to primary \*\*Based on Stena Recycling: 92% of CO2 is saved with recycled aluminium compared to primary \*\*\* Following EF 3.0 Climate Change





## 50% VALUTEC RECYCLED FB



#### CO2 per material:

Steel 172 361kg\* 86 181 kg virgin — 205 191 kg CO2e 86 181 kg recycled — 86 180 kg CO2e

Aluminium 1 141kg\*\* 571 kg virgin — 7129 CO2e 571 kg recycled — 570 CO2e

Mineral wool 9 767kg

Total = 309 tons CO2e\*\*\*



\*Based on Stena Recycling: 58% of CO2 is saved with recycled steel compared to primary \*\*Based on Stena Recycling: 92% of CO2 is saved with recycled aluminium compared to primary

\*\*\* Following EF 3.0 Climate Change





**CO2 per material** (Weight of material in a aluminium dryer was altered to 70% of the steel dryer):

Aluminium 45 077kg\* Steel 83 910kg\*\* Mineral wool 9 767kg

Total: 139 tons CO2e\*\*\*

\*Based on Stena Recycling: 92% of CO2 is saved with recycled aluminium compared to primary \*\*Based on Stena Recycling: 58% of CO2 is saved with recycled steel compared to primary \*\*\* Following EF 3.0 Climate Change



## 50% RECYCLED ALUMINIUM FB



**CO2 per material** (Weight of material in a aluminium dryer was altered to 70% of the steel dryer):

Aluminium 45 077kg\*

22 539 kg virgin — 286 587 kg CO2e 22 539 kg recycled — 22 927 kg CO2e

Steel 83 910kg\*\* 41 955 kg virgin — 99 893 kg CO2e 41 955 kg recycled — 41 955 kg CO2e

Mineral wool 9 767kg

#### Total= 461 tons CO2e\*\*\*

\*Based on Stena Recycling: 92% of CO2 is saved with recycled aluminium compared to primary \*\*Based on Stena Recycling: 58% of CO2 is saved with recycled steel compared to primary \*\*\* Following EF 3.0 Climate Change



### 50% RECYCLED VALUTEC FB KILN VS ALUMINIUM



Valutec total: 309 tons CO2e Lifespan 40 years: 309/40= **8 tons CO2e/y** 

Aluminium total= 461 tons CO2e Lifespan 20 years: 461/20= **23 tons CO2e/y** 

15 ton less CO2e/y with a Valutec FB kiln.





### 50% RECYCLED VALUTEC FB KILN VS ALUMINIUM



### 15 tons CO2e/year equals:

- 2 hectare Swedish softwood\*
- 60 flight trips Stockholm-London (return)\*\*
- 5 475 train trips Stockholm-Göteborg (return)\*\*\*
- 570 kg beef\*\*\*\*



\*https://www.skogssverige.se/hur-myckat-co2-tar-en-hektar-mellansvensk-barrskog-upp-under-de-forsta-50-aren-efter-plantering
\*\*\*https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx
\*\*\*https://atmozconsulting.se/2014/10/21/hur-kan-man-visualisera-1-ton-koldioxid/
\*\*\*\*https://godel.se/blogg/klimatqueen-reder-ut-sa-har-mycket-ar-1-ton-koldioxid/



### 50% RECYCLED VALUTEC FB VS ALUMINIUM



#### CO2e/m<sup>3</sup> dried timber

Valutec total: 309 tons CO2e Life span 40 years: 309/40= 8 tons CO2e/y Life capacity: 40 x 100 000m<sup>3</sup>=4 000 000m<sup>3</sup>

#### 0,08 kg CO2e/m<sup>3</sup> dried timber

Aluminium total= 461 tons CO2e Life span 20 years: 461/20= 23 tons CO2e/y Life capacity: 20 x 100 000m<sup>3</sup>=2 000 000m<sup>3</sup>

0,23 kg CO2e/m<sup>3</sup> dried timber



### A Valutec FB stainless steel kiln consumes 65% less CO2e/m<sup>3</sup> dried timber!



## CO2 EMISSION (TONS) COMPARISION



Material recycling rate	0%	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	80%, y/e
SS-FB*	434	183	208,1	233,2	258,3	283,4	308,5	333,6	358,7	383,8	408,9	5,83
ALU-FB**	773	139	202,4	265,8	329,2	392,6	456	519,4	582,8	646,2	709,6	13,29
SS-TC*	807	338	384,9	431,8	478,7	525,6	572,5	619,4	666,3	713,2	760,1	10,795
ALU-TC**	1224	249	346,5	444	541,5	639	736,5	834	931,5	1029	1126,5	22,2
SS-Batch*	108	46	52,2	58,4	64,6	70,8	77	83,2	89,4	95,6	101,8	1,46
ALU-Batch**	495	25	72	119	166	213	260	307	354	401	448	5,95
*Based on Stena Recycli	ing: 92% of	CO2 is sav	ed with re	cycled alur	ninium co	mpared to	primary					
**Based on Stena Recyc	ling: 58% c	of CO2 is sa	ved with r	ecycled ste	el compar	red to prim	ary					