

April 2023



AKKERMAN ENGINEERING SOLUTIONS ApS  
Torskekaj 1A, 3. sal, 6700 Esbjerg, Denmark  
CVR: 41 82 40 26

# CERTIFICATE

## PRODUCT

SYDNEY prefabricated stair kit (PSK)



## DESCRIPTION

Structural verification of the staircase SYDNEY product family. The maximum installation height from floor to top tread is 3150 mm and it has a maximum of 13 treads. The maximum tread width is 850 mm. The following configurations are included in this certificate: Straightway and quarter turn. Turn can only be positioned at the bottom of the staircase. SYDNEY is approved with Classic II, Classic III, Style6, Pure and Design banister. The required strength of the walls, deck and floor are not included in this verification.

## MATERIAL

Treads:  
38 mm oak or beech

Center stringer elements:  
Aluminum 6005-T5

Handrail:  
Ø40 mm oak or beech

Balusters:  
Steel, S235 JR or Aluminum 6005-T5

## PARTICULARITIES

The structure is checked with FEM for deformations and stress.

## EUROCODES

- » EAD 340006-00-0506
- » EN 1990:2002 Eurocode: Basis of Structural Design
- » EN 1991-1-1:2002 + AC:2009 Eurocode 1: Actions on structures - Part 1-1
- » EN 1991-1-6:2005 + AC:2008 Eurocode 1: Actions on structures - Part 1-6
- » EN 1993-1-5:2005 + AC:2009 Eurocode 3: Design of steel structures - Part 1-5
- » EN 1993-1-8:2005 + AC:2009 Eurocode 3: Design of steel structures - Part 1-8

## CONCLUSION

DOLLE SYDNEY staircase is calculated according to Eurocodes [1] and the design is found to be strong and stable [2].

## DESIGNATION

Complete product

## REFERENCES

- [1] DOLLE PSK verification procedure
- [2] SYDNEY PSK FEA verification report

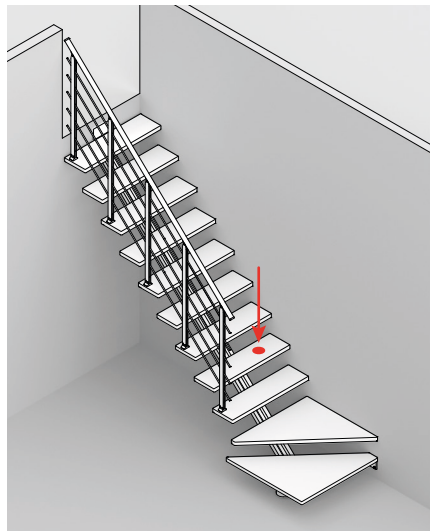
## CLIENT



DOLLE A/S  
CVR: 69 39 50 15  
Vestergade 47, 7741 Frøstrup, Denmark

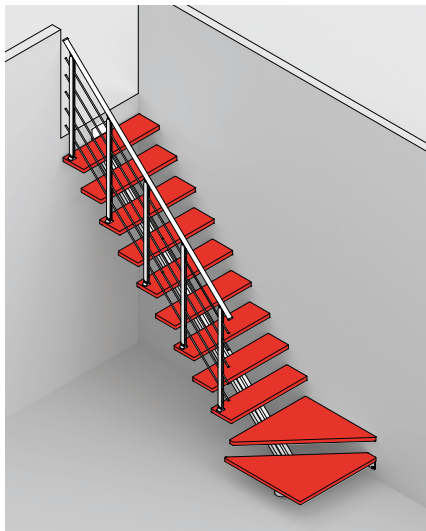


Thomas Sillesen  
CEO AKKERMAN ENGINEERING SOLUTIONS ApS



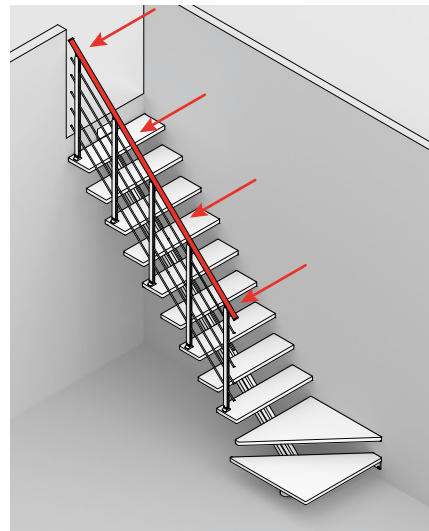
### STAIR POINT LOAD

Max. 2 kN ~ 200 kg



### STAIR SURFACE LOAD

Max. 2 kN/m<sup>2</sup> ~ 620 kg total load



### LOAD ON HANDRAIL

Max. 0,5 kN/m ~ 50 kg/m