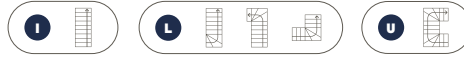


# CERTIFICATE

## PRODUCT

HAMBURG prefabricated stair kit (PSK)



## DESCRIPTION

Structural verification of the staircase HAMBURG product family. The maximum installation height from floor to top tread is 3010 mm and it has a maximum of 14 treads. The maximum tread width is 850 mm. The following configurations are included in this certificate: Straightway, quarter turn and half turn. Turn can be positioned any place on the staircase except from top tread. HAMBURG is approved with Classic II, Classic III, Style6 and Design banister. The required strength of the walls, deck and floor are not included in this verification.

## MATERIAL

Treads:	Center stringer elements:
38 mm oak or beech	Steel, S235 JR
Handrail:	Balusters:
Ø40 mm oak or beech	Steel, S235 JR

## 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 HAMBURG 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] HAMBURG PSK FEA verification report

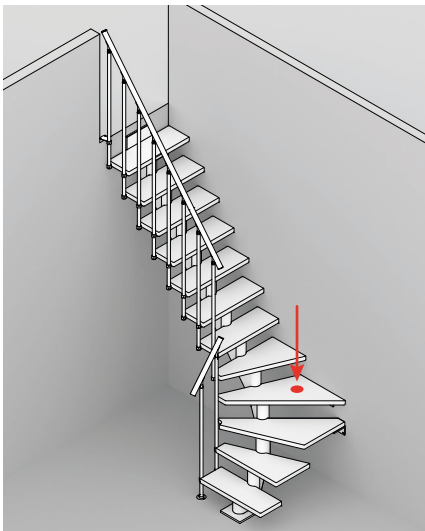
## CLIENT



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

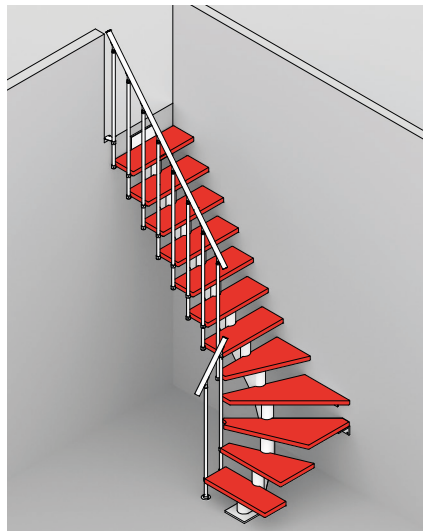



Thomas Sillesen  
 CEO AKKERMAN ENGINEERING SOLUTIONS ApS



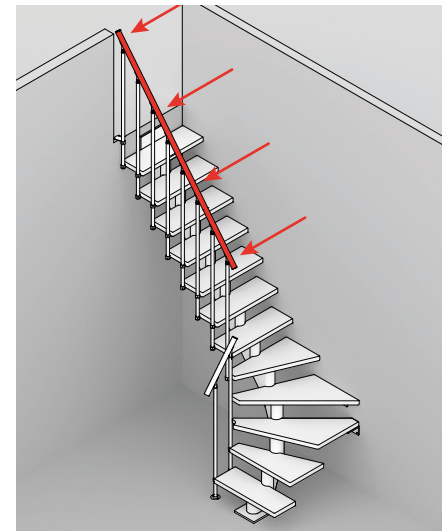
### STAIR POINT LOAD

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