September 2021

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

CERTIFICATE

PRODUCT
BOSTON prefabricated stair kit (PSK)

DESCRIPTION
Structural verification of the staircase BOSTON product family. The maximum installation height from floor to top tread is 3250 mm and it has a maximum of 13 treads. The tread width is 700 mm. The following configurations are included in this certificate: Straight-way and quarter-turn in any position except the top tread. Support post is demanded in all configurations. Wall brackets or tread connectors are demanded in all quarter turn configurations. The required strength of the walls, deck and floor are not included in this verification.

MATERIAL

Treads: 33 mm beech or oak	Center stringer elements: Steel, S235 JR	Tread connector: Steel, S235 JR
Handrail: Ø40 mm beech or oak	Wall brackets: Steel, S235 JR	Balusters: Steel, S235 JR

PARTICULARITIES
The structure is checked with FEM for deformations and stress.

EUROCODES
- 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 1993-1-8:2005 + AC:2009 Eurocode 3: Design of steel structures - Part 1-8

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

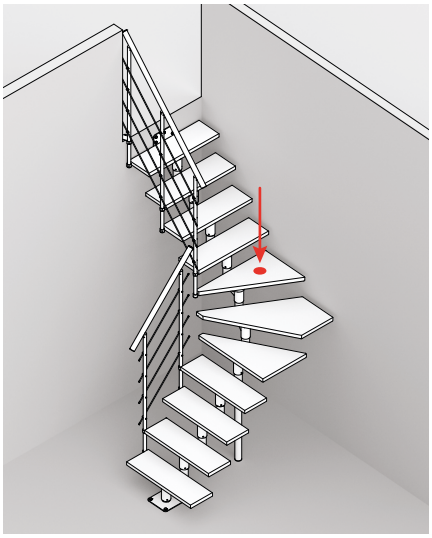
DESIGNATION
Complete product

REFERENCES
[1] DOLLE PSK verification procedure
[2] BOSTON PSK FEA verification report

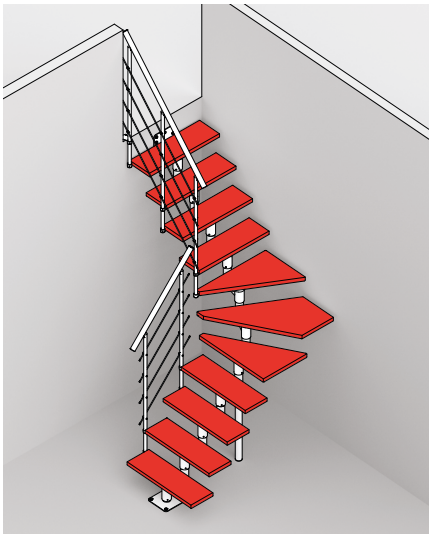
CLIENT
DOLLE A/S
CVR: 69 39 50 15
Vestergade 47, 7741 Frøstrup, Denmark

ISO 9001 BUREAU VERITAS Certification

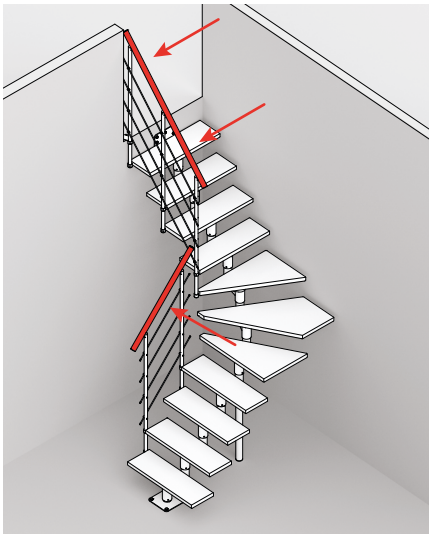
Thomas Sillesen
CEO AKKERMAN ENGINEERING SOLUTIONS ApS



STAIR POINT LOAD
Max. 2 kN ~ 200 kg



STAIR SURFACE LOAD
Max. 2 kN/m² ~ 435 kg total load



LOAD ON HANDRAIL
Max. 0,5 kN/m ~ 50 kg/m