

CERTIFICATE

- Client:** DOLLE A/S
- Product:** DOLLE Gardentop
- Designation:** Complete product family
- Description:** Structural verification of the straight staircase product family Gardentop. The maximum installation height from floor to top tread is 2640 mm and it has maximum 12 treads. The product family has two stringers and each stringer is supported when the staircase has 8 treads or more. The support of the stringers is not mandatory if tread width is 80 cm or less. If the staircase is installed with 6 treads or more then step-supports are mounted on 6 treads. The staircase is approved with either PROVA handrail banister with minimum 4 posts holding the handrail when the staircase has 12 treads, or with standard banister with one baluster for each tread. The product family is approved with the following tread types: [steel step 80 cm] [steel step 100 cm] [Board tread 80 cm] [Board tread 100 cm] [Trimax step 80 cm] [Grating step 80 cm] [Grating step 100 cm].
- Material:** Stringer construction: Steel, S235 JRG2
Stringer support: Steel, S235 JRG2
Step support: Steel, S235 JRG2
Standard banister: Ø25 mm Steel, S235 JRG2
PROVA handrail banister: Aluminum 6063
- Particularities:** The structure is checked with FEM for deformations and stress.
- Eurocodes:** EN 1991-1-1:2007 Eurocode 1: Actions on structures - Part 1-1
EN 1991-1-4:2007 Eurocode 1: Actions on structures - Part 1-4
EN 1993-1-8+AC:2007 Eurocode 3: Design of steel structures - Part 1-8
- References:** [1] DOLLE® Design basis for ladders and stairs, rev. 01
- Conclusion:** DOLLE Gardentop product family is calculated according to Eurocodes [1] and the design is found to be strong and stable.

ISO 9001 : 2015
Management System Certification
BUREAU VERITAS
Certification Denmark A/S



March 2019
Jan Riis Bovbjerg
Senior Management Consultant
BIIR ApS

A handwritten signature in black ink, appearing to read 'Jan Riis Bovbjerg'.