CERTIFICATE

Client:	**DOLLE**
Product:	**DOLLE Montreal**
Designation:	**Product family**
Description:	**Structural verification of the spiral staircase family Montreal. The product family has a maximum outer diameter of 160 cm. The maximum installation height is 3525 mm and it has maximum 14 treads and landing platform. The following Montreal configurations are included in this certificate: Design 10, Style 10, Style 15, Classic 2, Classic 3, Classic 4 and Classic 5. The screws for fastening the platform to the wall is not included in this verification.**
Material:	**Steps for Ø160 cm is 40 mm beech, steps for Ø140 cm and Ø120 cm is 35 mm multiplex or 40 mm beech** **Centre construction: Steel, S235 JRG2** **Spacer: ABS** **Step support pipe: Steel, S235 JRG2** **Handrail: PVC-Rigid or LDPE** **Balustrades: Steel, S235 JRG2**
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 Montreal 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

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