

# DECLARATION OF PERFORMANCE

No. 012/01

1. Unique identification code of the product: ASL-H and ASL-P wall shoes
2. Product: Column shoes are installed in the wall element formwork before casting.
3. Intended use of the product: Wall shoes are used for connecting concrete wall elements to each other and for connecting concrete wall elements to foundations.
4. Manufacturing place: Anstar Oy  
Villähde
5. Manufacturer: Anstar Oy  
Erstantie 2  
FI-15540 Villähde, Finland
6. Attestation of conformity system: 2+
7. Identification number of the notified body: 0416

KIWA Inspecta Sertifiointi Oy has made certification of the factory production control by an approved body based on initial inspection of factory and of factory production control as well as of continuous surveillance, assessment and approval of factory production control.  
Factory production control certificate is 0416-CPR-7247-03.

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9. Performance characteristics:

Performance characteristic	Performance	European technical specifications
Tolerances on geometrical data	EN 1090-2:2018	EN 1090-2:2018
Weldability	Structural steels: EN 10025-2, S355J2 Reinforcement bars: B500B	EN 1090-2:2018 EN 17660-1
Fracture toughness	Fracture toughness 27J -20°C	EN 1993-1-10
Reaction to fire	Material classified: Class A1	EN 1090-1:2009+A1:2011
Release of cadmium	NPD	EN 1090-1:2009+A1:2011
Emission of radioactivity	NPD	EN 1090-1:2009+A1:2011
Design	Reinforcement: Anchoring of rebars EN 1992-1 Axial load resistance of shoe: EN 1993-1. Shear load resistance of element grouting seam, friction, EN 1993-1-8	EN 1992-1, EN 1993-1, EN 1993-1-8, 6.2.2
Durability	Surface preparation according to EN 1090-2, preparation grade P1. Concrete cover according to EN 1992-1.	EN 1090-2:2018 EN 1992-1
Structural characteristics		
Load bearing capacity	Resistances: User manual: ASL Wall Shoes, chapter 4.2	EN 1991, EN 1992-1, EN 1993-1,
Fatigue strength	NPD	EN 1090-2:2018
Resistance to fire	Calculated value R30-R180 for erected and poured structure.	EN 1992-1, EN 1993-1
Manufacturing	According to component specification 012/01-2019 on execution class EXC2 and EXC3. Welding of reinforcement bars according to EN17660-1.	EN 1090-2:2018 EN 17660-1

10. This declaration of performance is given on sole responsibility of manufacturer named on chapter 5.

Villähde 28.02.2019



Tero Viljakainen  
Managing director