

Testing and dimensional control of ladders and accessories

Summary

This is a brief assessment based on the contents of report “O100480.DP17.1303975 – Testing and dimensional control of ladders and accessories” dated 2025-02-21. Report O100480.DP17.1303975 is the conclusive document and contains all the information about the execution and results.

1 Introduction

RISE has been commissioned by Weland Stål AB to perform testing and dimensional controls of ladders, safety cage, anti-climbing device, platforms/landings, handrails and ladder anchorage systems in accordance with applicable parts of SS-EN ISO 14122-4:2016. The complete inventory list of tested and controlled objects can be seen in report “O100480.DP17.1303975”.

2 Results

The results apply solely to the tested objects. The inventory list and test setups can be seen in report “O100480.DP17.1303975”.

2.1 Results for testing of rungs

The maximum allowed residual deformation for this test was 0.3 % of the length of the rung, which in this case is $400 \times 0.003 = 1.2$ mm. The results are shown in Table 1.

Table 1 Test results for rungs.

Tested object	Test	Test results
Rung on the ladder	SS-EN ISO 14122-4:2016 chapter 6.2.1.2	Acceptable
Step U-profile		Acceptable

2.2 Results for stiffness test of ladder

The maximum allowed residual deformation for this test was 0.3 % of the length of the loaded part of the ladder, which in this case is $4 \times 300 \times 0.003 = 3.6$ mm. The results are shown in Table 2. The results also apply to ladder 1500x400mm and ladder 1800x400mm.

RISE Research Institutes of Sweden AB

Postal address	Office location	Phone / Fax / E-mail
Box 857 501 15 BORÅS SWEDEN	Brinellgatan 4 504 62 Borås SWEDEN	+46 10-516 50 00 +46 33-13 55 02 info@ri.se

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Table 2 Test results for stiffness testing.

Tested object	Test	Test results
Ladder 2400x400mm	SS-EN ISO 14122-4:2016 chapter 6.2.1.1	Acceptable

2.3 Results for testing of safety cage

The maximum allowed residual deformation for the hoop is 50 mm and for the uprights its 10 mm. Hoops of 900 mm was used during the testing the results also applies for hoops 600 mm. The results are shown in Table 3.

Table 3 Test results for safety cage.

Tested object	Test	Test results
Safety cage	SS-EN ISO 14122-4:2016 chapter 6.2.2 test of hoops	Acceptable
	SS-EN ISO 14122-4:2016 chapter 6.2.2 test of uprights	Acceptable

2.4 Results for testing of ladder anchorage systems

The results for the anchorage systems are shown in Table 4.

Table 4 Test results for anchorage systems testing.

Tested object	Test	Note
Bracket façade ladder 150 mm	SS-EN ISO 14122-4:2016 chapter 5.1.3.4	Acceptable
Bracket façade ladder 300 mm		Acceptable
Bracket kit 450-700 mm		Acceptable
Bracket kit 700-1000 mm		Acceptable
Fastening plate 300x100 mm		Acceptable
Fastening plate smooth 300x100 mm		Acceptable

2.5 Results for testing of platforms and landings

The results for the platforms and landings are shown in Table 5.

Table 5 Test results for platforms and landings.

Tested object	Test	Note
Landing for ladders	SS-EN ISO 14122-4:2016 chapter 5.1.2	Acceptable
Moveable rest landing 370x160		Acceptable
Moveable rest landing 370x400		Acceptable
Platform 600x600		Acceptable

2.6 Results for testing of anti-climbing systems

After removing the loads there were not allowed to be any visible permanent deflection which could lead to a lack of functionality. The results are shown in Table 6.

Table 6 Test results for anti-climbing systems.

Tested object	Test	Note
Anti-climbing system	SS-EN ISO 14122-4:2016 Annex A A.2.3.2	Acceptable

2.7 Results for testing of handrails

The handrails has been tested before and can be seen in report P118726rev1 dated 2023-08-29.

3 Dimension control

Dimensionskontroll i enlighet med tillämplade delar ur SS-EN ISO 14122-4:2016		façade ladder	Safety cage	Anti-climbing device	Platform and landings	Moveable rest landing	Handrail	Ladder accessories
Kontrollerat								
Avsnitt								
4.1.3	Kontroll av avstånd mellan steg och vägg	Ok						
5.2	Steg med två sidostycken							
5.2.1	Hållfasthet ent 6.2							
5.2.2	Stegpinnar							
5.2.2.2	Avstånd - stegpinne	Ok						
5.2.2.3	Stegpinnas längd	Ok						
5.2.2.4	Krav på utformning av stegpinne	Ok med stegtra U-profil						
5.2.2.5	Stegpinnas placering							Ok
5.2.3	Anslutning av steg och skyddsräcke - ej relevant							
5.3	Steg med ett vinstycke - Ej relevant							
5.4	Instegsområden och utstegsområden - Relevant?							
ev 5.4.4	Öppning för tillträde						Ok	
5.4.4.1	Usteg framåt eller åt sidan						Ok	
5.5	Fallskyddsanordning							
5.5.1.2	Mått och krav		Ok					
5.6	Plattformar och vliplan							
5.6.4	Flytbara vliplan - dim.krav				Ok	Ok		
Annex A	Krav på konstruktionen hos klättringsskydd							
A.2.2	Dimensioner			Ok				

RISE Research Institutes of Sweden AB
Chemistry and Applied Mechanics - Construction and Infrastructure

Performed by

Albin Zetterqvist

Examined by

Daniel Vennetti

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Zetterqvist (AZ)

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Signerare

Albin Zetterqvist (AZ)

RISE Research Institutes of Sweden AB

Org. nr 556464-6874

albin.zetterqvist@ri.se

+46 10 722 33 96

Signerade 2025-03-05 13:05:43 CET (+0100)

Daniel Vennetti (DV)

daniel.vennetti@ri.se

Signerade 2025-03-06 05:24:14 CET (+0100)

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