

ROPE SUITABILITY TEST



Rope Suitability Test

The ActSafe rope suitability test, as outlined on the following pages, is developed to determine which EN 1891 A ropes are suitable for personnel lifting with ActSafe Ascenders. Equipment lifting requires the use of the ActSafe Equipment Lifting Rope.

The test result will give a clear indication about grip and wear of ropes that are being tested. The criteria are that the rope is not allowed to slip or get damaged and after the test the rope should meet the inspection criteria of the respective rope manufacturer.

The first section of this document is about general requirements, preparations and the test procedure. The second section is about the actual test. The test consists of 5 parts which have to be performed in consecutive order with short intervals, the total test time will be under an hour.

General outline

- » This test can be performed on ActSafe ACC and/or ACX Power Ascenders
- » It's recommended to perform the test with an Ascender that is in a good condition and has been recently serviced
- » Test can be performed with ActSafe Li-Ion batteries or with ActSafe Portable Power Supply
- » It should be clearly stated which type of Ascender was being used when test results are being published
- » Weights of 100 kg, 250 kg and 50 kg should be available for testing
- » The height of test area should be ideally be between 5 and 7 metres

1. Safety

Tests shall be performed in a safe and clean environment and in compliance with local health and safety regulations.



Safety shoes shall be worn during testing.



Be aware that during test 2 and 5, an extra 50 kg of load will be added to the Ascender. Plan this operation carefully to avoid risk of personal injury.



Be particularly careful when rigging to avoid pinching and wear gloves during testing.



Step away from load when loads are lifted.



Do not stand under suspended loads. Take particular care of feet during changing of loads.



Keep a safety distance of at least 2 metres from suspended Ascender and load while testing.

ROPE SUITABILITY TEST



2. Rope

- » EN 1891A 11 mm
- » Rope samples for testing shall be 5 metres +/- 10 cm
- » Manufacturers who would like to publish test results for rope recommendations must perform the test on two rope samples from different batches with similar results

3. Pre-soaking

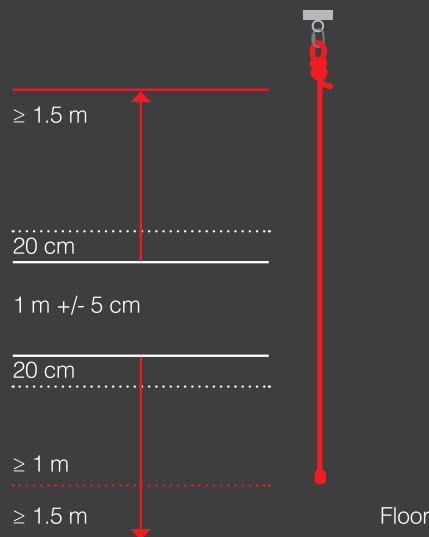
ActSafe recommends that ropes are pre-soaked before first use for improved performance, better grip and less wear when used with ActSafe Power Ascenders

- » Rope should be preferably pre-soaked for first use but this can be left to manufacturers' discretion?
- » Rope should be soaked in cold water of maximum 20°C for 24 hours and then dried according manufacturer specification or slowly dried for 5 days at 20°C
- » The rope must be dry when tests are being performed
- » When test results are being published it should be clearly stated if the rope was pre-soaked

4. Marking of rope

- » A 1 metre +/- 5 cm stretch on the unloaded, hanging rope shall be marked with an ink marker. The top marking shall be at least

- » 1.5 metres away from the figure of 8 loop and the lower marking at least 1 metre from the bottom end of the rope and at least 1.5 metres above the floor of the test area
- » Mark, as tolerance markers, the rope additionally 20 cm above the top marker and 20 cm below the lower marker



Test installation

- » Rope shall be rigged on an EN 795 Anchor or a point with a similar static strength at a height between 5 and 7 metres. The anchor can be extended with a chain or steel wire(s) in case the initial anchor is positioned higher than 7 metres, this is to avoid any additional stretch/absorption from the extension during testing

- » The rope will be connected to the anchor with a karabiner. The rope can have a short figure of 8 loop or a pre-sewn eye for connection

Atmospheric conditions during testing

- » Temperature: 20°C , +/- 5°
- » Relative humidity: 50 % , +/- 10%

Tolerance on markers

During several steps in the test the Ascender should be stopped or change direction at the 1 metre markers on the rope. However, a slippage distance of 20 cm is acceptable hence the tolerance markers (see previous diagram)

Time intervals

- » Time intervals in between tests is maximum 5 minutes
- » Wear test is a continuous test with no intervals

Test

- » Each rope sample should undergo the following five tests

ROPE SUITABILITY TEST



TEST PROGRESS



Dynamic test (250 kg)

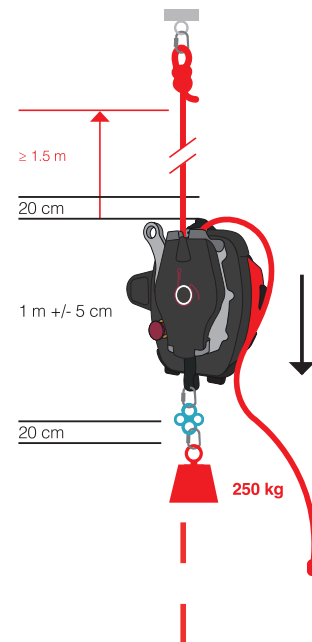
1.25x SWL of ACC or ACX Ascender

A. Test

- » Load the Ascender with 250 kg
- » Position the Ascender at the top 1 m marker
- » Descend full speed with remote control
- » Stop abruptly at the bottom marker
- » Slippage of more than 10 cm is not acceptable

B. Preparation for next test

Start Test 2 from this point. Mark the dead/unloaded rope at the level of the rope guide with a different colour marker as reference for Test 2 (see illustration on next page).



TEST PROGRESS



Static load test (300 kg)

1.5x SWL of ACC or ACX Ascender

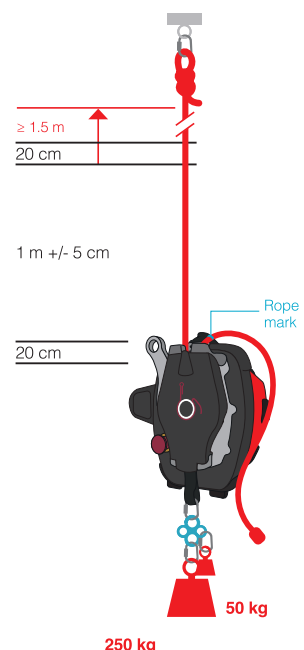
A. Test

Do not move the Ascender and load the Ascender with additional weight of 50 kg. plan the loading of additional 50 kg carefully. Total load becomes 300 kg. Leave it hanging for three minutes. No slippage of the Ascender is allowed, the marker should stay in same position in relation to rope guide

B. Preparation for next test

Continue by changing load to 100 kg. Lowering of Ascender past the bottom marker for easier changing of load is allowed.

Pulling of rope end to overcome mantle slippage while positioning Ascender, as preparation, up to bottom 1 metre marker is allowed. Repeat the wear test on the same 1 metre rope stretch as dynamic and static test.



ROPE SUITABILITY TEST



TEST PROGRESS



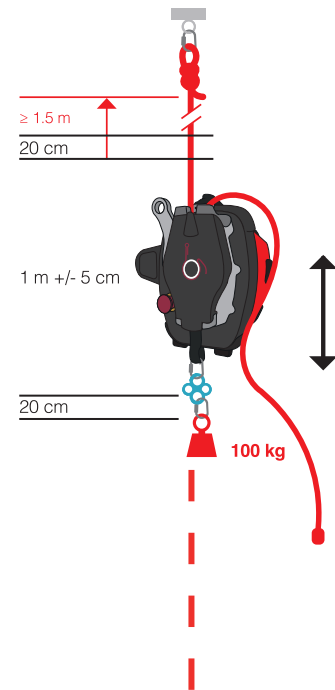
Rope wear test

A. Test

Ascend and descend continuously for 100 cycles with 100 kg load attached to the ascender using remote control on highest speed in between the top and bottom 1 metre marker.

B. Preparation for next test

- » Continue by changing load to 250 kg. Lowering of Ascender past bottom marker for easier changing of load is allowed
- » Pulling of rope end to overcome mantle slippage while positioning ascender, as preparation, up to lower 1 metre marker is allowed
- » Repeat the static and dynamic test on the same stretch as the wear test 1 and 2



TEST PROGRESS



Dynamic test (250 kg)

1.25x SWL of ACC or ACX Ascender

Test

- » Position the Ascender at the top 1 m marker and descend full speed with remote control and stop at the bottom marker
- » Slippage of more than 10cm is not acceptable
- » Continue with next step from this position. Mark the dead/unloaded rope at the level of the rope guide with a different colour marker as reference for test 5

TEST PROGRESS



Static load test (300 kg)

1.5x SWL of ACC or ACX Ascender

Test

- » Do not move the ascender and load the Ascender with additional weight of 50 kg
- » Total load becomes 300 kg
- » No slippage/movement of the Ascender is allowed, the marker should stay in same position in relation to Rope Guide

ActSafe Systems AB
Sagbäcksvägen 13
SE-43731 Lindome, Sweden

T: +46 31 65 56 60
E: info@actsafe.se
W: www.actsafe.se

ROPE SUITABILITY TEST



During testing

Rope samples that pass the suitability test should meet all of the following criteria:

- » Each rope sample should meet the test criteria as specified at dynamic and static load test
- » For tests 2, 3 and 5 no slippage of Rope Grab on the rope while ascending or descending during testing is allowed
- » No mantle breakage during or in between consecutive tests is allowed

- » No severe mantle damage (i.e. rope core becomes visible) during or in between consecutive tests is allowed

After testing

- » The rope should meet the manufacturers inspection criteria after the test sequence of five individual tests