

REPORT



Handled by, department
Eva Larsson
Building Technology and Mechanics
+46 33 16 52 36, eva.larsson@sp.se

Date
2006-02-03

Reference
P600608

Page
1 (2)

Fasty AB
Box 166
334 23 Anderstorp

Tensile testing of lashings

(1 appendix)

This is a translation from the Swedish original document. In event of any dispute as to the content of the document, the Swedish text shall take precedence.

1 Introduction

By order of Fasty AB lashings have been tested.

Purpose: Determine maximum tensile force.

Test place: Building Technology and Mechanics, laboratory.

2 Test objects

Designation: Lashings of polypropylene, 6 types according to table 1 and photos 1-2.

Table 1 Type of lashings.

Strap	Designation	Measured strap dim. (mm)	Buckle	Fastening of the strap in the buckle
20 mm Standard strap, white	6720	19 x 1.4	"Fasty" 20 mm	Loop seam
20 mm Text/logo strap	Yellow FASTY-strap	19 x 1.6		
20 mm Black strap	5700	19 x 1.4		
25 mm Standard strap, white	6720	25 x 1.4	"Fasty" 25 mm	Seam, "envelope pattern" approx 20x30 mm
25 mm Text/logo strap	Blue FASTY-strap	25 x 1.6		
25 mm Black strap	6904	25 x 1.3		

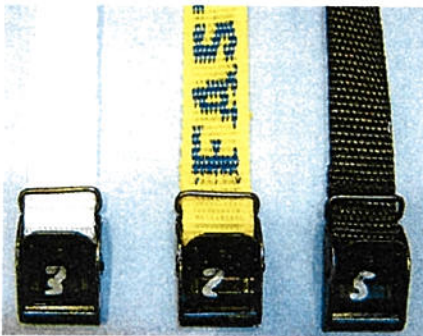


Photo 1 Design 20 mm lashings.



Photo 2 Design 25 mm lashings.

Selection of test objects: The test objects have been selected by the client without SP's assistance.

Date of arrival, SP: February 3, 2006.

SP Swedish National Testing and Research Institute

Postal address
SP
Box 857
SE-501 15 Borås

Office location
Västeråsen
Brinellgatan 4
Borås

Phone / Fax / E-mail
+46 33 16 50 00
+46 33 13 55 02
info@sp.se

This document may not be reproduced other than in full, except with the prior written approval of SP.



3 Test method and performance

The lashings were mounted between 16 mm rods in a tensile testing machine and loaded until fracture. The distance between the rods was 200 mm at the beginning of the test. The installation is shown in figure 1. 5 specimens of each type have been tested.

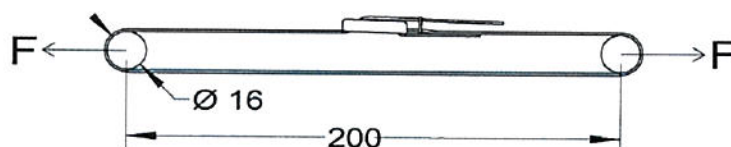


Figure 1 Mounting of the lashings at the beginning of test.

Test date: February 3, 2006

4 Test results

The test results shown in this report refer only to the tested objects.

Table 2 Summary of test result

Strap	Width (mm)	Maximum force, mean value 5 tests		Maximum force Maximum/ minimum value (kN)	Fracture
		(kN)	(kp)*		
Standard strap, white, 6720	20	4.03	411	4.13/3.88	Strap
Text/logo strap, yellow Fasty	20	4.15	423	4.30/4.04	Strap/buckle
Black strap, 5700	20	4.21	429	4.24/4.18	Strap/buckle
Standard strap, white, 6720	25	4.66	475	5.00/4.45	Strap
Text/logo strap, blue Fasty	25	5.34	544	5.38/5.31	Strap
Black strap, 6904	25	5.87	598	6.02/5.84	Strap/strap slips

*Calculated value 1 kp=9,81 N

All test results and types of fractures are shown in appendix 1.

5 Measurement uncertainty

The total calculated measurement uncertainty for the maximum force is < 1 %. Reported uncertainty corresponds to an approximate 95 % confidence interval around the measured value. The interval has been calculated in accordance with GUM (The ISO guide to the expression of uncertainty in measurements), which is normally accomplished by quadratic addition of the actual standard uncertainties and multiplication of the resulting combined standard uncertainty by the coverage factor $k=2$.

SP Swedish National Testing and Research Institute
Building Technology and Mechanics - Solid Mechanics and Structures


Erica Waller
Technical Manager


Eva Larsson
Technical Officer

Appendix 1. Table with all test results.