



**POLITECNICO DI MILANO**  
**DIPARTIMENTO DI MECCANICA**

**COMMITTENTE**

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RELAZIONE PROVA SU COMMISSIONE

3-2003 TESSILMARE

**Prove aerodinamiche in Galleria del Vento  
su tendalini per imbarcazioni**

**3 Febbraio 2003**

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## 1. INTRODUCTION

Tests are being carried out inside wind tunnel in order to test the structure resistance of sun-tops for recreational motor-boats.

Such folding structures are mounted on the deck of the boat by means of proper fittings produced by press-fusion process fixed through screws or bolts supplied together with the sun-top.

The particular structure of the sun-top in open position suggests its use restricted to a relative wind-boat speed to guarantee the preservation of the projected geometrical and structural characteristics.

It is therefore to point out indicatively such a speed to allow the use of the sun-top in a safety condition for the user.

In particular it takes place lack of any trace of “giving in” phenomena on the top-cover in polyester as well as on the elements of the frame and the connection devices to the boat either during and after the test performed at known speed.

## 2. TEST PROCEDURE

It is realised by Tessilmare Srl a suitable metallic structure with all the attachments points where to fix the sun-top.

This structure, fixed by means of bolts to the floor of the testing room, represents the deck of the boat.

It is fixed to use the “high speed” testing room of the wind tunnel of Politecnico di Milano.

At the condition of laminar flow, at closed room, it is obtaining, for the used section of 4000 x 3840 mm, a max. speed of approx. 55 m/s, corresponding to approx. 200 km/h, considered sufficient for the test performing.

It is fixed to perform all the test at an angle of incidence to the wind equal to 0°, and with the sun-top correctly fixed to the structure.

Also the angle of yaw keeps always equal to 0°.

The test consists in the execution of a speed step “standard” sequence, starting from a min. speed of 11 m/s, corresponding to 40 km/h.

m/s	km/h	nodi
11.1	40	
16.6	60	
22.2	80	
25	90	
27.7	100	
33.3	120	

### Speed step

Intermediate steps, which have been mentioned in the following sheets, have been executed when it has been considered necessary.

Tests course has been supported by photographs taken both by Tessilmare and Politecnico di Milano.