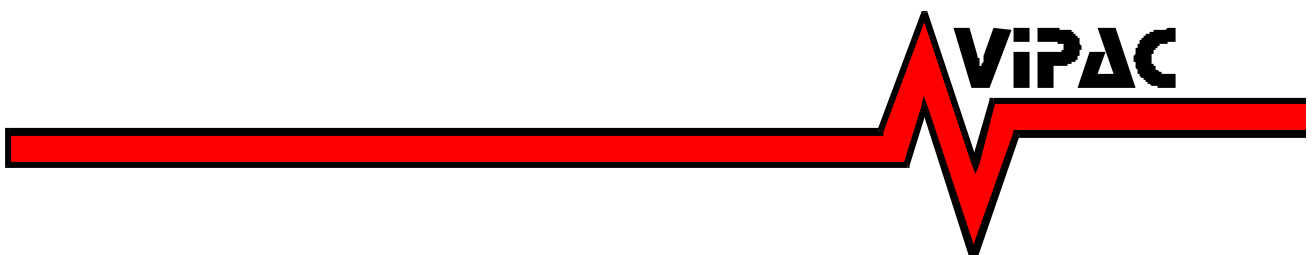


Westaflex Australia Pty. Ltd.

Pressure Test of Unilok FR1 Flexible Duct at 3000Pa

Report No. 302944-1

Prepared by
Vipac Engineers & Scientists Ltd
June, 2001



DOCUMENT CONTROL FORM

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1.0 INTRODUCTION

This report presents the results of a 3000Pa pressure test carried out on an a 6m length of 300mm diameter Unilok FR1 flexible duct supplied by Westaflex. The purpose of the test was to expose the sample to an internal pressure of 3000Pa and determine if the sample can withstand that pressure. Note that the Unilok FR1 product inner sleeve does not contain any perforations. The test sample is shown in Figure 1.



Figure 1: Test Sample

2.0 TEST SET UP AND PROCEDURE

One end of the inner sleeve was fitted over the fan outlet spigot, the other end of the inner sleeve was fitted over a spigot with end cap, and both sides were taped with duct tape. Care was taken to ensure that the sleeve was not damaged by the ductwork edges. The outer jacket was then also taped to the spigot at each end. Figures 2A and 2B show the test sample during testing.

Static pressure was measured using a pressure probe inserted near the end cap, refer Figure 3. The fan speed was gradually increased until a pressure of 3000Pa was achieved. The fan was left running for 5 minutes, after which the fan was switched off, and each end of the duct was carefully dismantled from the spigot and inspected.

The environmental test conditions in the test room during testing varied within the following ranges:

Test Air Temperature	16 degrees C \pm 2.0 degree C
Room Air Temperature	18 degrees C \pm 2.0 degree C
Barometric Pressure	1065 millibar \pm 5 millibar
Relative Humidity	60 \pm 10%



Figure 2A: Test Set-up, Fan End



Figure 2B: Test Set-up, Capped End



Figure 3: Pressure Measurement at Capped End

3.0 INSTRUMENTATION

INSTRUMENT	MAKE	CALIBRATION		SERIAL NO.
		BY	DATE	
Manometer	Airflow Developments	Gas Technology Services	5/6/2001	36862

4.0 ORDERS OF ACCURACY

Pressure Drop: $\pm 5\%$

5.0 RESULTS

The results obtained are shown in the attached Test Certificate.

Report Prepared by:

VIPAC ENGINEERS AND SCIENTISTS LTD.

.....
GREG THEODORIDIS
PROJECT ENGINEER

.....
PAUL WALSH
OPERATIONS MANAGER

TEST CERTIFICATE

PRESSURE TEST OF A FLEXIBLE DUCT

SUPPLIED BY: WESTAFLEX AUSTRALIA PTY. LTD.
TESTED BY: VIPAC ENGINEERS & SCIENTISTS LTD
TEST DATE: 25/6/2001
CLIENT: WESTAFLEX AUSTRALIA PTY. LTD.
SAMPLE: Unilok FR1, 300mm Diameter, 6m Length

TEST CONDITIONS:

Pressure in Duct: 3000PA
Duration: 5 minutes

STATEMENT OF OBSERVATIONS:

DURING EXPOSURE TO THE ABOVE CONDITIONS, THE INTEGRITY OF THE FLEXIBLE DUCT WAS MAINTAINED.

- a) **THE 3000PA INITIALLY ACHIEVED WAS MAINTAINED, INDICATING THE DUCT DID NOT DEVELOP ANY BREACHES DURING THE 5 MINUTE TESTING DURATION**
- b) **NO LEAKS THROUGH THE DUCT WERE OBSERVED DURING TESTING**
- c) **NO DAMAGE DUE TO PRESSURISATION WAS FOUND ON INSPECTION OF THE SAMPLE AFTER TESTING**

Greg Theodoridis
Project Engineer

Paul Walsh
Operations Manager