

# CERTIFICATE OF TEST

MANUFACTURER: Pelican Products Inc.  
23215 Early Avenue  
Torrance  
California 90505  
USA

APPARATUS: Protector Case Range, Case Type  
Numbers: 1100, 1120, 1150, 1200,  
1300, 1400, 1450, 1500, 1520,  
1550, 1600, 1650, 1700, 1750.

STANDARDS: EN60529 : 1991  
IEC60529 : 1989

IP RATED: IP67

This is to certify that the above equipment has been tested in accordance with the requirements of EN60529 : 1991 and IEC60529 : 1989 and offers a degree of protection IP67.



Dated: 30<sup>th</sup> July 1999

Stephen L D'Henin  
Technical Director



National Association of  
Professional Inspectors & Testers

ISO 9002  
Registered Company



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Epsilon Technical Services Limited

Epsilon



# Ingress Protection Test Report

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Date: 4 August, 1998

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**Pelican Products Inc.**  
**Torrance**  
**CA 90505**  
**USA**

**Pelican Protector Case Range**

**ETS Report No: TETS0064A**  
Commercially in confidence

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# TEST REPORT

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Carried out by Epsilon Technical Services Limited on behalf of:

Pelican Products Inc  
23215 Early Avenue  
Torrance  
California 90505  
USA

ETS Project No: ETS0064.

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## 1 INTRODUCTION

**Equipment:** Range of Waterproof Polypropylene Carry Cases

**European Standards:** EN60529: 1991 (degrees of protection provided by enclosures)

**Assessments and Tests Conducted Between:** June 98 and August 98

### Samples Received:

Sample	Quantity	Type/Serial Number	Date Received at Epsilon
Small Case	1	1120/ 0064-1	May 1998
Medium Case	1	1550/ 0064-2	April 1998
Medium Case	1	1650/ 0064-3	May 1998
Long Case	1	1750/ 0064-4	May 1998

## **1.1 Test Requirement**

The manufacturer requires an ingress protection rating for the supplied range of carry-cases. The required ingress protection rating being IP67. This requires the apparatus to be waterproof and dust-tight.

## **2 ASSESSMENTS**

The tests were carried out on representative samples of the smallest and largest cases in the range due to the sealing methods being identical throughout the range, with the distance between sealing clamps or hinges varying between case sizes. The largest exhibited the greatest distance between sealing clamps or hinges, with the smallest case exhibiting the shortest distance between sealing clamps or hinges.

The samples received were the best representation of the range of cases showing the typical sealing methods with largest and smallest distance between sealing clamp points.

## **3 TESTS**

### **3.1 Test Methods**

The cases were subjected to ingress protection tests for a degree of protection IP67.

#### **3.1.1 Ingress Protection Level First Numeral 6 (IP6X)**

The test samples were fitted with extraction tubes prior to the test. These tubes were fitted and sealed into holes that had been made in the sides of the test samples. The tubes were used to apply a depression of 200 mm H<sub>2</sub>O (20 mbar) below atmospheric pressure to the test samples. Note that due to very low leakage rates, the extraction rate values were not applied and the maximum depression method used.

The samples were exposed to the specified dust environment, at the stated depression, for 8 hours.

#### **3.1.2 Ingress Protection Level Second Numeral 7 (IPX7)**

The test samples were immersed in a tank of water such that the lower part of the samples were greater than 1 m below the surface of the water and the upper part of the samples were at least 150 mm below the surface of the water for 30 minutes.

## **3.2 Test Results**

### **3.2.1 Ingress Protection Level First Numeral 6 (IP6X)**

The samples were removed from the dust cabinet after 8 hours and examined for dust ingress; no ingress of dust was observed.

### **3.2.2 Ingress Protection Level Second Numeral 7 (IPX7)**

The samples were removed from the water tank after 30 minutes and examined for ingress of water; no ingress was observed.

## **4 CONCLUSION**

The test samples type tested are deemed to offer a degree of ingress protection IP67 in accordance with the requirements of the relevant clauses of EN60529: 1991.

Due to the construction and sealing methods applied to the entire range of Protector Cases being exactly the same, the type testing proves that the entire range listed below offer a degree of ingress protection IP67.

Protector Case type numbers 1100, 1120, 1150, 1200, 1300, 1400, 1450, 1500, 1520, 1550, 1600, 1650, 1700, 1750 are all included in the type approval.