

# TEST REPORT



Your Ref : Date : 2000-03-31

Our Ref : 18S0001512/ST/KSY/LHF Page : 1 of 3  
(Please quote our ref. no. in reply)

DID : 7729582 Fax : 7794359

(PSB is established as a statutory and testing authority by an Act of Parliament, the PSB Act No 1 of 1996)

NOTE: This Report is issued subject to the "Terms and Conditions Governing Technical Services" set out in the "Request for Technical Services" form. The terms and conditions governing the issue of this report are set out overleaf. **This Report is not a Certificate of Quality.** It only applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results shall not be used to indicate or imply that they are applicable to other similar terms. In addition, such results must not be used to indicate or imply that PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that PSB in any way "guarantees" the later performance of the product/equipment.

## EVALUATION OF PP CORRUGATED INNERDUCTS

Client : Litaflex Plastics Mfg Pte Ltd  
108 Woodlands Ind Park E  
Singapore 757841

Attn : Mr Alex Y S Tan

\*\*\*\*\*

### Background :

Nine pieces of black coloured "LITAFLEX" polypropylene (PP) corrugated innerducts, each with approximate dimensions of  $\phi 40\text{mm} \times 1140\text{mm}$  were received on 2000-03-15 for evaluation. In addition, 1kg of white coloured PP resin were received for Tensile Properties Test.

### Test methods :

BS 4607 : Part 3 : 1971  
Specification for non-metallic conduits and fittings for electrical installations. Pliable corrugated, plain and reinforced conduits of self-extinguishing plastics material

The report shall not be reproduced wholly or in parts and no reference shall be made by the Client to PSB or to the report or results furnished by PSB in any advertisements or sales promotion.

18S0001512/ST/KSY/LHF

Test methods : (cont'd)

1. Heat Resistance Test, Appendix A

Nominal specimen dimensions : 500mm  
Test conditions :  $50 \pm 2^\circ\text{C}$  for 4h  
No. of determinations : 3

2. Bending Test, Appendix B

Nominal specimen dimensions : 500mm  
No. of determinations : 3

3. Compression Test, Appendix C

Nominal specimen dimensions : 200mm  
Total force applied : 450N  
No. of determinations : 3

4. Tensile Strength and Elongation at Break

ASTM D638 : 1996 - Standard Test Method for Tensile Properties of Plastics

Test conditions :

Type of specimen : Dumbbell Shape, Die C  
Gauge length : 25mm  
Grip length : 64mm  
Crosshead speed : 50mm/min  
No. of determinations : 6

Compression moulding conditions :

Moulding temperature :  $200 \pm 5^\circ\text{C}$   
Preheating time : 10 minutes

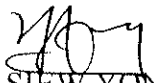
18S0001512/ST/KSY/LHF

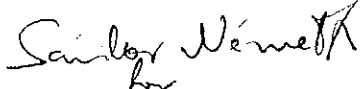
Result :

Characteristics	Nominal Outer Diameter 40mm	BS 4607 : Part 3 : 1971 Requirements
1. Resistance to Heat Test	Passed test ball with diameter of 27.2mm.	Passed test ball with appropriate diameter through the sample under its own weight.
2. Bending Test	No visible crack was observed.  Passed test ball with diameter of 27.2mm.	No visible crack.  Passed test ball with appropriate diameter through the sample.
3. Compression Test a) Change in outside diameter on compression, % (average)  b) Change in outside diameter after compression, % (average)	11.6  3.2	25% maximum  10% maximum
4a. Maximum Tensile Strength, MPa (average)	28.6 (1.1)	18.5 MPa
4b. Elongation at Break, % (average)	202.6 (90.8)	80% minimum

Remarks :

- Unless otherwise stated, all test specimens were conditioned at  $23 \pm 2^\circ\text{C}$  /  $70 \pm 15\%$  RH and tested at  $23 \pm 2^\circ\text{C}$  /  $65 \pm 5\%$  RH.
- The values in the parentheses are the respective standard deviations.

  
 KONG SIEW YONG  
ASSISTANT TEAM LEADER

  
 SIAN CHEAN CHIN  
HEAD (POLYMER CONSULTANCY  
& CHARACTERISATION  
MATERIALS TECHNOLOGY  
APPLICATION CENTRE