

31 October, 2005

Astec Paints Australasia Pty Ltd  
262 Marion Road  
NETLEY SA 5037

Attention: Mr Mark Waters

**REPORT 05MAAD10487 – Part 3**

CLIENT REFERENCE: Request

TITLE: Astec BASIX test

SAMPLE IDENTIFICATION: Astec Energy Star DG IR Elastic

WORK REQUESTED: Determine colour classification according to Basix Thermal Comfort Protocol.

INVESTIGATING OFFICER(S): Natalie Powell

Monty Luke  
Laboratory Manager  
Materials Services

## 1. INTRODUCTION

Mark Waters of Astec Paints Pty Ltd supplied reflectance and emittance data of Astec Energy Star DG IR Elastic samples of various colours to the Amdel Materials Services Laboratory. It was requested that Amdel should carry out calculations to determine the colour classification according to the BASIX Thermal Comfort Protocol. The samples supplied for evaluation were identified as follows.

- ❖ Astec Energy Star DG IR Elastic
- ❖ Astec Energy Star colours

## 2. PROCEDURE

The sample data supplied were inserted into the American Cool Roof Rating Council ASTM E 1980-01 calculator. Standard solar conditions of Solar Flux = 1000W/m<sup>2</sup> Ambient Air Temp = 310K (37°C), Ambient Sky Temp = 300K (27°C) and no conductive heat transfer were used for all calculations. Each sample used the Emittance value for Astec Energy Star DG IR Elastic white base of 0.90.

## 3. RESULTS

- ❖ Colour Classifications

The results of the calculations of the Astec Energy Star DG IR Elastic sample were as follows.

| <u>Colour</u>             | <u>Solar Absorbance</u> | <u>BASIX Classification</u> |
|---------------------------|-------------------------|-----------------------------|
| White Base                | 0.104                   | Light                       |
| 8068 C/B Heritage Red     | 0.625                   | Medium                      |
| 8069 Red Iron Oxide       | 0.610                   | Medium                      |
| 8070 Terracotta           | 0.576                   | Medium                      |
| 8071 Clay Tone            | 0.533                   | Medium                      |
| 8072 Warm Clay            | 0.405                   | Light                       |
| 8073 Tuscany              | 0.340                   | Light                       |
| 8074 C/B Ironbark         | 0.594                   | Medium                      |
| 8075 Pioneer              | 0.712                   | Dark                        |
| 8076 Regal Brown          | 0.614                   | Medium                      |
| 8077 Yallara Brown        | 0.630                   | Medium                      |
| 9078 C/B Weathered Copper | 0.609                   | Medium                      |
| 8079 Charcoal             | 0.672                   | Medium                      |

| <u>Colour</u>             | <u>Solar<br/>Absorbance</u> | <u>BASIX Classification</u> |
|---------------------------|-----------------------------|-----------------------------|
| 8080 C/B Slate Grey       | 0.597                       | Medium                      |
| 8082 Nimbus               | 0.645                       | Medium                      |
| 8083 C/B Beige            | 0.457                       | Light                       |
| 8084 Merino               | 0.317                       | Light                       |
| 8085 Off White            | 0.253                       | Light                       |
| 8086 Sandalwood           | 0.233                       | Light                       |
| 8087 C/B Smooth<br>Cream  | 0.215                       | Light                       |
| 8088 Mocca                | 0.424                       | Light                       |
| 8089 Stone                | 0.311                       | Light                       |
| 8098 Carraige Green       | 0.754                       | Dark                        |
| 8099 Bruns Green          | 0.741                       | Dark                        |
| 8100 Mist Green           | 0.560                       | Medium                      |
| 8101 C/B Rivergum         | 0.555                       | Medium                      |
| 8102 Olive Green          | 0.606                       | Medium                      |
| 8103 Blue Grass           | 0.640                       | Medium                      |
| 8104 Botanic              | 0.721                       | Dark                        |
| 8105 French Green         | 0.461                       | Light                       |
| 8108 C/B Mountain<br>Blue | 0.745                       | Dark                        |
| 8081 C/B Birch Grey       | 0.378                       | Light                       |
| 8094 Quarry               | 0.402                       | Light                       |
| 8095 Mid Biscuit          | 0.305                       | Light                       |
| 8097 Light Latte          | 0.291                       | Light                       |
| 8106 C/B Saltbush         | 0.442                       | Light                       |
| 8107 Cobalt               | 0.662                       | Medium                      |
| 8110 Pewter               | 0.393                       | Light                       |
| 8111 Autumn               | 0.391                       | Light                       |
| 8112 Chino                | 0.394                       | Light                       |
| 8091 Broken White         | 0.187                       | Light                       |
| 8092 Neutral White        | 0.215                       | Light                       |

| <u>Colour</u>     | <u>Solar<br/>Absorbance</u> | <u>BASIX Classification</u> |
|-------------------|-----------------------------|-----------------------------|
| 8093 Pale Biscuit | 0.246                       | Light                       |
| 8096 Light Cream  | 0.213                       | Light                       |
| 809 Gull Grey     | 0.317                       | Light                       |