

28 November, 2005

Astec Paints Australasia Pty Ltd
262 Marion Road
NETLEY SA 5037

Attention: Mr Mark Waters

REPORT 05MAAD12330 – Part 3

CLIENT REFERENCE: Request

TITLE: Astec BASIX test

SAMPLE IDENTIFICATION: Astec Energy Star Ceram-4000

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 Ceram-4000 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 Ceram-4000
- ❖ Astec Energy Star colours

2. PROCEDURE

The sample data supplied was inserted into the American Cool Roof Rating Council ASTM E 1980-01 calculator. Standard solar conditions of Solar Flux = 1000W/m² 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 Ceram-4000 white base of 0.88.

3. RESULTS

- ❖ Colour Classifications

The results of the calculations of the Astec Energy Star Ceram-4000 sample were as follows.

<u>Colour</u>	<u>Solar Absorbance</u>	<u>BASIX</u>
White Base	0.132	LIGHT
8068 C/B Heritage Red	0.625	MEDIUM
8069 Red Iron Oxide	0.61	MEDIUM
8070 Terracotta	0.576	MEDIUM
8071 Clay Tone	0.533	MEDIUM
8072 Warm Clay	0.405	LIGHT
8073 Tuscany	0.34	LIGHT
8074 C/B Ironbark	0.594	MEDIUM
8075 Pioneer	0.712	DARK
8076 Regal Brown	0.614	MEDIUM
8077Yallara Brown	0.63	MEDIUM
8078 C/B Weathered Copper	0.609	MEDIUM
8079 Charcoal	0.672	MEDIUM
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

<u>Colour</u>	<u>Solar Absorbance</u>	<u>BASIX</u>
8086 Sandalwood	0.233	LIGHT
8087 C/B Smooth 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	0.56	MEDIUM
8101 C/B Rivergum	0.555	MEDIUM
8102 Olive Green	0.606	MEDIUM
8103 Blue Grass	0.64	MEDIUM
8104 Botanic	0.721	DARK
8105 French Green	0.461	LIGHT
8108 C/B Mountain 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
8093 Pale Buscuit	0.246	LIGHT
8096 Light Cream	0.213	LIGHT
8109 Gull Grey	0.317	LIGHT