

**GENERAL TEST REPORT**

WORK REQUEST NO: 2004/302

SUBMITTER: I Miller

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DATE SUBMITTED: 24/9/04

SAMPLE PART No 122-4-452

SAMPLE DESCRIPTION: SOLID HOT PLATE

**TEST: CORROSION & WEAR RESISTANCE OF THERMOPower HOT PLATE****REPORT/RESULTS:****INTRODUCTION:**

A pair of the above hot plates were submitted for comparative evaluation of corrosion and wear resistance.

**METHOD:**

Tests were performed on the proposed and current samples for material, coating adhesion, salt spray resistance, wear resistance, coating thickness and microstructure.

**RESULTS:**

<b>SAMPLE</b>	<b>CURRENT</b>	<b>PROPOSED</b>
<b>SOURCE</b>	EGO	THERMOPower
<b>ADHESION</b>	O.K.	O.K.
<b>SALT SPRAY 250h FACE</b>	Clean	Clean
<b>SALT SPRAY 250h TRIM GAP</b>	Slight rust	Slight rust
<b>SALT SPRAY 1000h FACE</b>	Fine rust spots	Clean
<b>SALT SPRAY 1000h TRIM GAP</b>	Moderate rust patches	Moderate rust patches
<b>WEAR RESISTANCE 240 grit</b>	200 rubs	950 rubs
<b>COATING THICKNESS CREST</b>	60 µm	100 µm
<b>COATING THICKNESS TROUGH</b>	85 µm	170 µm
<b>COATING MICROSTRUCTURE</b>	High porosity	Low porosity
<b>BODY MICROSTRUCTURE</b>	Grey iron -- fine graphite	Grey iron -- coarser graphite
<b>FACE CORRUGATIONS SPACING</b>	675 µm	500 µm
<b>TRIM MATERIAL</b>	304 stainless steel	430 stainless steel
<b>BOTTOM COVER MATERIAL</b>	Aluminized steel	Aluminized steel

**CONCLUSIONS**

1. The body was made from grey cast iron -- the same material that was used on the current hot plate but with a coarser graphite.
2. The surface of the body consisted of concentric corrugations of finer spacing than in the current hot plate.
3. The trim was made from a cheaper and less resistant grade of stainless steel than on the present hot plate.

**EGO****THERMOPower**TESTED BY: S MEDIANIK  
CHECKED BY:DATE 18/11/04  
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