



Packaging Trial using STATIC INTERCEPT® Sheet Material

at

**Lincoln Crankshaft
Beevor Street
Lincoln LN6 7DJ**

Date: 17th May 2012

Trial undertaken by:

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Repacked on 24th May 2012



Introduction

- The trial was arranged to evaluate the functionality of the STATIC INTERCEPT® product for export of crank shafts to Cameron in Houston, USA
- Product was packed for immediate dispatch by sea freight

Technical Information

Packaging Method:

STATIC INTERCEPT®, 150 µm, flat film

Packaging Material:

STATIC INTERCEPT®, 150um, 96" wide flat film

Desiccants type: Topdry DIN 55473-B, 16 unit desiccant bags

Product tested:

- Crank shaft

Metal types: Unspecified, residue of Braemar de-watering fluid

Test period: To be despatch sea freight to the Houston, USA

Documentation

Trial date: 18th May 2012



Trial packing commenced: 9.53 am

Trial packing finished: 10.11 am

Temperature: 15°C

Relative Humidity: 51%

Packaging Process

The current packaging process uses VCI tube supplied on a roll

Product was packed in the existing packing area

Trial packaging:

- STATIC INTERCEPT®, 150um, 96" wide flat film
- Desiccants type: Topdry DIN 55473-B, 16 unit desiccant bags
- Flat film was sealed using hull tape

Author: Richard Hancock
Date: 6th June 2012



- Existing softwood box was used for the trial. The sides of the box was lined with plastic sheet
- Locating blocks were positioned in the base of the box
- The STATIC INTERCEPT® film was laid out across the box and pushed down to line the sides and bottom



- The crank shaft was lowered into the box

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- The crank shaft showed residue of Braemar dewatering fluid used to wash the product before packing
- The fluid could be seen on the STATIC INTERCEPT® film when the crank shaft came into contact with it



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- The film was folded over the crank shaft

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- The end of the film was folded over and taped to seal



- The remaining side of the film was folded over

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- Excess material was trimmed



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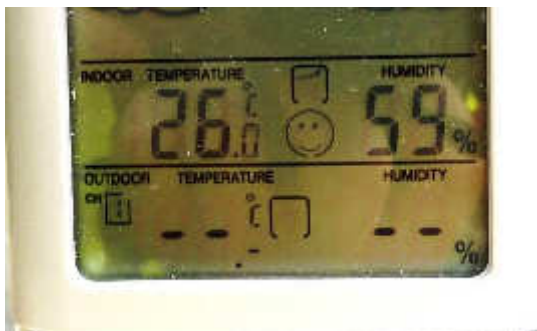
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- The crank shaft fitted tightly into the box. The preferred way of packing would be to allow the film to be taped on the side rather than the top – to allow any water ingress into the box to run off. As this was not possible the film was taped along the top
- Yellow Intercept tape was used to finish the packing. The tape instructs anyone opening the packing to reseal



Repacking of Product

- RH was advised on 22nd May that the crate/intercept had been unwrapped to check the dimensions of the crankshaft
- The site was revisited on the 24th May to repack the crankshaft



Trial packing commenced: 12.20 pm

Trial packing finished: 12.50 pm

Temperature: 26°C

Relative Humidity: 59%

- The temperature inside the factory was considerably higher than the day of the initial packing – the humidity was also higher

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- The small amount of hull tape left on site had been used to re-seal the ends after the crankshaft was removed and measurements checked
- The remainder of the Intercept material was wrapped over, partly taped and the lid placed on the crate



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- There were gaps where the Intercept film was not sealed
- There were some holes in the film and evidence of Braemar Dewatering Fluid LO



- Holes in the film were taped



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- Desiccant was replaced and tape applied to the ends (appears excessive due to tape already in place – which was left to reduce further tares of the film)
- Tape used along length of crankshaft and yellow tape also replaced



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Storage of WIP crankshafts

- Currently crankshafts are waxed whilst being stored and before final finishing and despatch to customers. The wax is then washed off before packing. This is both time consuming and the wax is never fully removed



Next Step

- To open the trial pack at Cameron, Texas. Photos to be taken to allow the report to be updated and re-issued with the results of the trial

COMPtrade Technologies GmbH would like to say thank you to all participants for their cooperation as well as for the permission Mike Harwood to take photographs with the intention to complete our documentation

This documentation is confidential and is only to be submitted to parties on a need-to-know-basis

Richard Hancock

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