



TECHNICAL REPORT ON THE DETERMINATION OF THE COEFFICIENT OF FRICTION OF A RUBBER SAMPLE

BettaHaul Pty. Ltd.

ExcelPlas Job # 14224

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COMMERCIAL-IN-CONFIDENCE



1. Objective

The objective of this study is to determine the coefficient of friction of a supplied rubber sample against a supplied steel plate surface.

2. Samples Supplied

One sample (three specimens) of rubber block and typical steel sections were supplied.

The identification of the sample was:

Sample ID:
14224-1 Rubber sample

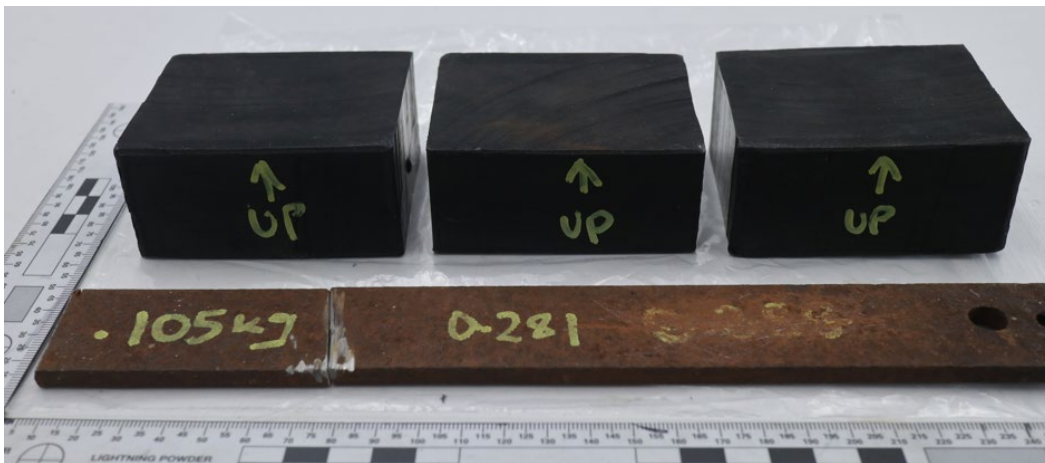


Figure 1. Sample as received



3. Testing Undertaken

The coefficient of friction determination was undertaken according to the principles of ASTM D1894 with modifications.

Specimens were conditioned at 23°C, 50% RH for >48 hours prior to testing.

Testing was carried out using a Cometech Universal Testing Machine QC-506A1 S/N 112012 (Asset No. 001).

Testing was carried out at ExcelPlas Highett laboratory.

4. Method of Sampling

Specimens were provided by the client.

5. Testing Methodology

- Specimens were attached to a thin metal wire to slide the specimen across the dragging surface. The mass of the wire + rubber specimen was taken into account when calculating coefficient of friction.
- To avoid contamination/introduction of dirt, dust etc., care was taken to not touch or lay down specimens on the sides being tested.
- A variation from the standard test method of the sled and specimen having a total mass of 200g $\pm$ 5g was necessary, as the combined mass of the wire + rubber specimens did not meet these criteria.
- Double-sided adhesive tape was used to fix the steel plate 'dragging surface' in place.
- Each specimen was positioned according to the client's instructions, with the indicated arrow facing upward (as shown in Figure 1). The bottom surface of each specimen was then placed in contact with the provided steel sections for the coefficient of friction testing.
- It is noted that the width of the provided steel section was narrower than that of the provided rubber specimens, and therefore only part of the specimen's bottom surface was in contact with the steel section during testing.



6. Results

Coefficient of friction for Sample 14224-1:

14224-1 Rubber sample	Coefficient of Static Friction	Coefficient of Kinetic Friction
Specimen 1	1.168	0.940
Specimen 2	1.134	1.024
Specimen 3	1.010	0.853
Average	1.104	0.939
Standard Deviation	0.083	0.085

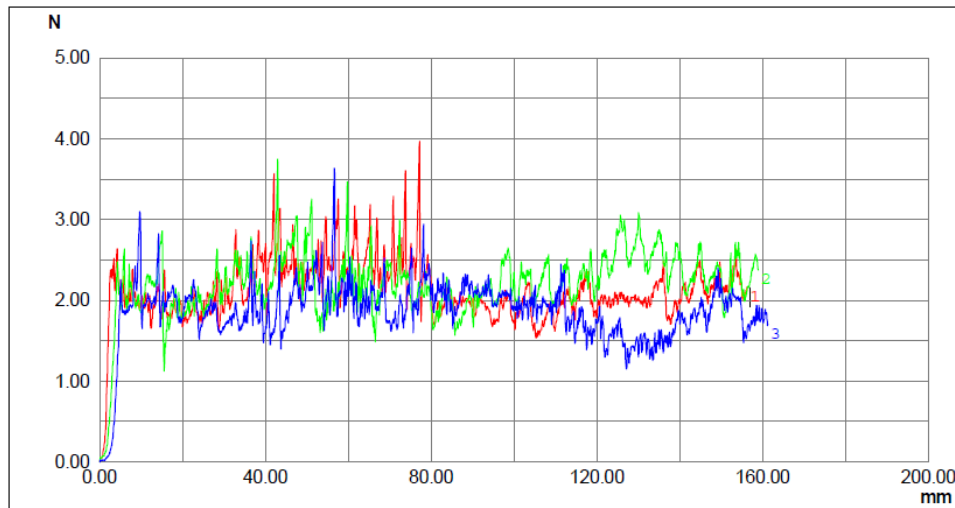


Figure 2. Force-Displacement Curve of Sample 14224-1 Rubber sample



Prepared By	Reviewed By
	
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Unless otherwise negotiated with the client, test samples will be disposed of 90 days after the report has been issued. In the case of large samples (greater than approximately half metre square), the client needs to arrange for sample pick up or disposal (cost will apply to client).

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