



63704 Aschaffenburg, Postfach 100565
63741 Aschaffenburg, Zeppelinstr. 3-5
Germany
Telefon +49 (0) 60 21 / 49 89-0
Telefax +49 (0) 60 21 / 49 89-30
Email isega@t-online.de
<http://www.isega.de>

Aschaffenburg, 24 August 2009

From: Mr. Köttner
Kö/ma

BERICHT

Order No.: 2176/37 **Page 1 of** 3 **pages**

Client: Metsä Tissue Corp.
Tehtaankatu 16
35800 Mänttä / Finland


Date of order: 12 May 2009

Receipt of sample material: 20 May 2009

Origin of sample material: From the client

Purpose: Analysis for the compostability according to EN 13432


(Dr. Derra)


(Köttner)
Dipl.-Geoecologist

Der Bericht bezieht sich nur auf die hier beschriebenen Proben. Informationen u. statistische Daten zum Ergebnis sind auf Anfrage erhältlich.

Nichtakkreditierte Messungen waren zum Zeitpunkt der Beurkundung noch nicht validiert. Einzelne Prüfungen wurden wegen des eingeschränkten Anwendungsbereichs nicht zur Akkreditierung vorgesehen. Die für die Bewertung notwendige Genauigkeit ist in diesen Fällen durch das interne Qualitätsmanagement gewährleistet.

Sample material:

For analysis the following sample material was in hand:

- Sample 1:** SerlaBake / Saga 2-S Siliconised Ref. 603 (41 g/m²)
Sample 2: SerlaPack WS "Voipaperi" Ref. 717 (39 g/m²)
Sample 3: SerlaCup / Saga Ref. 666 (43 g/m²)
Sample 4: SerlaPan / Saga Ref. 617 (39 g/m²)

Carrying out of the Tests

Examination period: 10 June 2009 to 18 August 2009

The characterization of the material and the test for disintegration have been carried out according to the EN 13432 "Packaging. Requirements for packaging recoverable through composting and biodegradation".

Compostability test (Disintegration)

The disintegration test had been carried out under practice-relevant conditions in an indoor test composting site. The sample material was put into an insulated composting box (pilot-plant scale) filled with fresh compost and green waste in defined ratios according to SOP 168.850. Samples were taken in regular time intervals. The temperature surveyed composting process was documented with photographs which are presented in the annex.

Week of composting	Retain on screen mesh 2 mm, [% weight]	
	Sample 1 SerlaBake / Saga 2-S Siliconised Ref. 603	Sample 2 SerlaPack WS "Voipaperi" Ref. 717
1	0.1	94.9
2	< 0.1	1.7
3	---	< 0.1
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---
11	---	---
12	---	---

Week of composting	Retain on screen mesh 2 mm, [% weight]	
	Sample 3 SerlaCup / Saga Ref. 666	Sample 4 SerlaPan / Saga Ref. 617
1	0.3	0.2
2	< 0.1	< 0.1
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---
11	---	---
12	---	---

The maximum admissible retain on a sieve with 2 mm screen mesh size after 12 weeks of composting according to EN 13432 is 10 %.

Evaluation

According to the test results and to the compostability criteria in the European standard EN 13432, the tested samples are evaluated as follows:

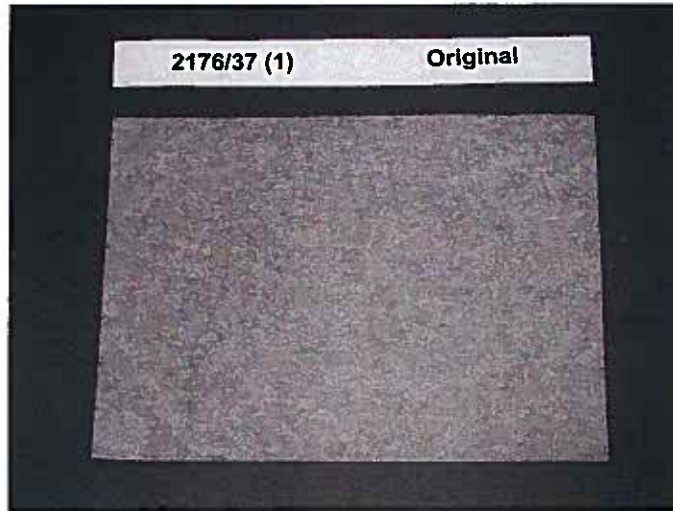
- Sample 1:** The Paper "SerlaBake / Saga 2-S Siliconised Ref. 603" fulfils the requirements of EN 13432 with respect to compostability under practical conditions
- Sample 2:** The Paper "SerlaPack WS "Voipaperi" Ref. 717" fulfils the requirements of EN 13432 with respect to compostability under practical conditions
- Sample 3:** The Paper "SerlaCup / Saga Ref. 666" fulfils the requirements of EN 13432 with respect to compostability under practical conditions
- Sample 4:** The Paper "SerlaPan / Saga Ref. 617" fulfils the requirements of EN 13432 with respect to compostability under practical conditions

Annex

Photographic Documentation

Photographic Documentation

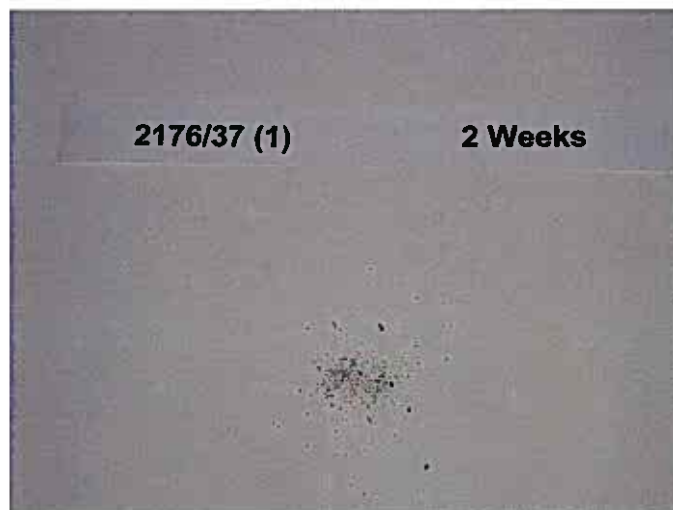
Sample 1 (SerlaBake / Saga 2-S Siliconised Ref. 603 (41 g/m²))



Original



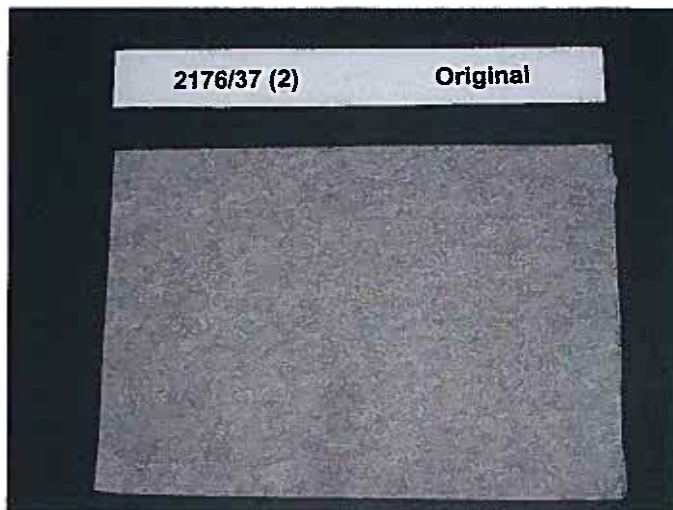
After 7 days



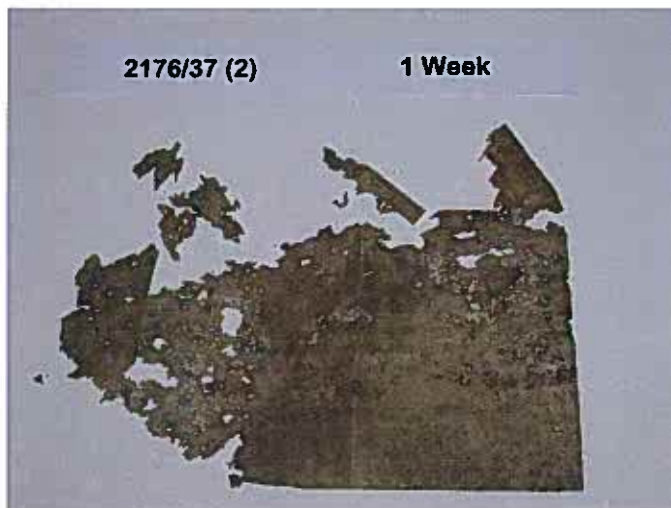
After 14 days

Photographic Documentation

Sample 2 (SerlaPack WS "Voipaperi" Ref. 717 (39 g/m²))



Original



After 7 days



After 14 days

Photographic Documentation

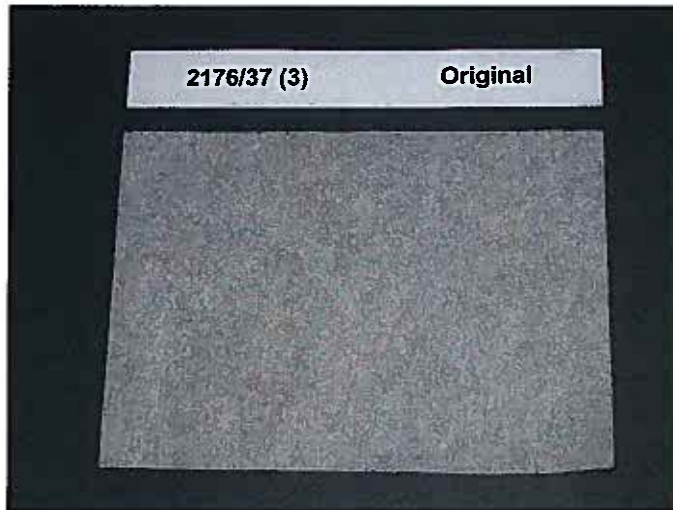
Sample 2 (SerlaPack WS "Voipaperi" Ref. 717 (39 g/m²))



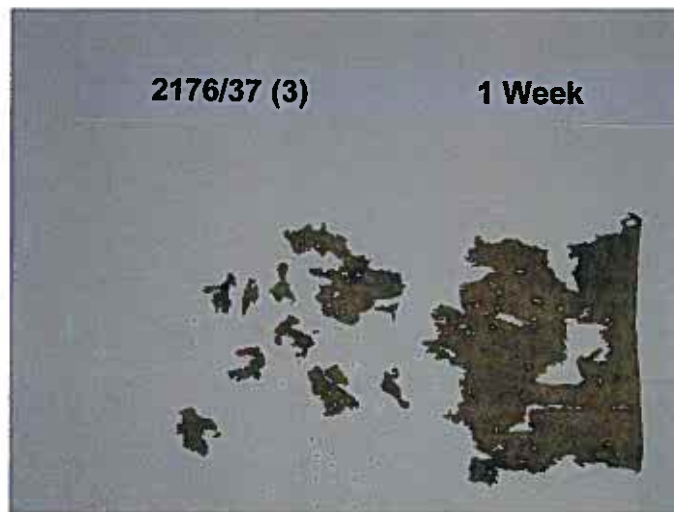
After 21 days

Photographic Documentation

Sample 3 (SerlaCup / Saga Ref. 666 (43 g/m²))



Original



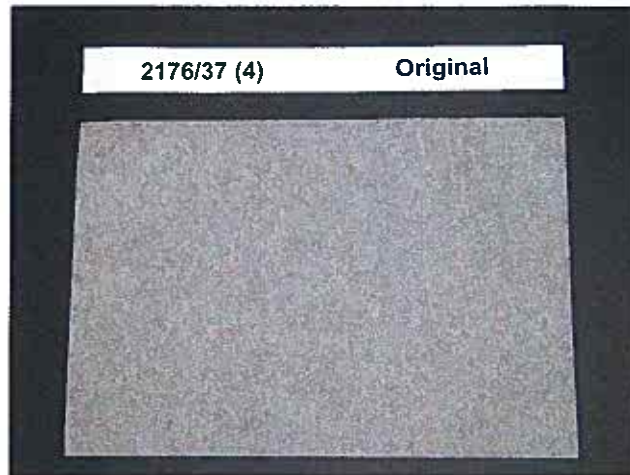
After 7 days



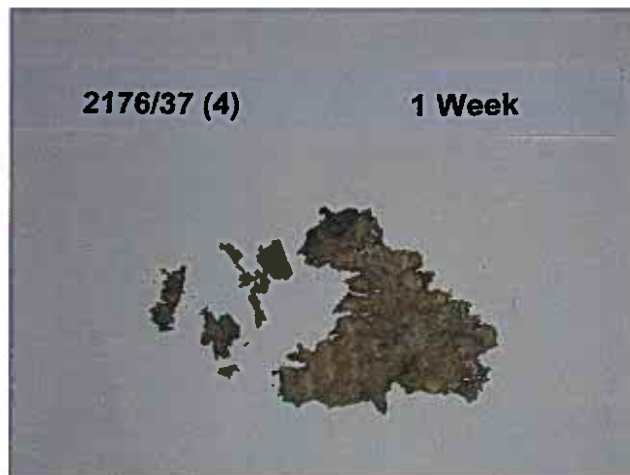
After 14 days

Photographic Documentation

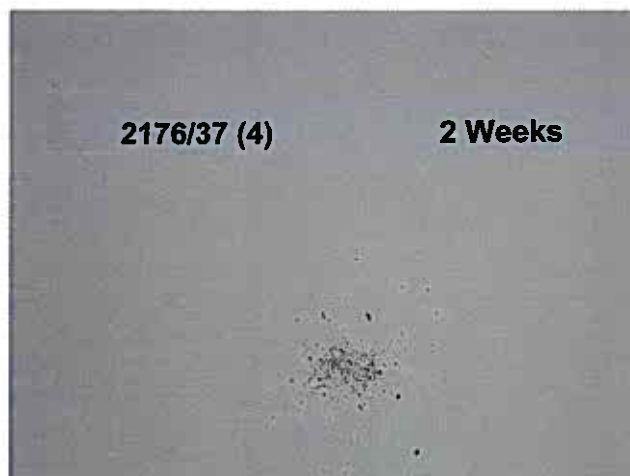
Sample 4 (SerlaPan / Saga Ref. 617 (39 g/m²))



Original



After 7 days



After 14 days