



20LD03130

Technical Report

Determination of parameters of recyclability
of cellulose-based materials and products

issued on
17/09/2020

To the kind attention of

ITASA
SORABILLA, 218
20140, ANDOAIN (Spagna)

Sample

SILICONE COATED RELEASE PAPER PRINTED (Batch n° AF1047819)

Sampled by

BY CUSTOMER
on the 27/07/2020, CUSTOMERS PLANT

Received on

08/09/2020

End of analysis

16/09/2020

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1. DESCRIPTION OF THE SAMPLE

Sample identification: SILICONE COATED RELEASE PAPER PRINTED (Batch n° AF1047819)

Type of sample: Silicone coated release paper

Test starting date: 16/09/2020

Notes: Analysis performed on pre-consumer sample



Fig. 1 Sample as received

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2. DETERMINATION OF THE KEY PARAMETERS FOR EVALUATING THE LEVEL OF RECYCLABILITY

The assessment of the level of recyclability of cellulose-based materials and products is carried out according to the standard 'UNI 11743:2019', and the results assessed in accordance with the 'Aticelca Evaluation Method 501:2019'.

The method aims to determine, on a laboratory scale, the key parameters for evaluating the level of recyclability of cellulose-made materials and products (over 50 % in weight) simulating some of the main phases of industrial processes to recycle paper.

2.1. APPARATUS

- Analytical balance Gibertini EU-C 7500DR;
- Standard pulper Noviprofibre type N6200;
- Fractionator: Somerville Noviprofibre type mod. N3800, equipped with a screen-plate with Ø 5 mm holes, a plate with Ø 0.10 mm holes wide slots, and a plate with Ø 0.15 mm wide slots;
- PTS DOMAS image analysis system consisting of a scanner equipped with a minimum optical resolution of 2000 dpi and a software for the analysis of the area and size distribution of macrostickies;
- Rapid Köthen sheet former Noviprofibre type RK-2A 070883.

3. RESULTS

The results are reported in Table 1.

Table 1. Results: recyclability key parameters

Parameter	Unit	Result	Minimum value	Maximum valute
Coarse reject	%	13.7	13.1	14.2
Flakes	%	33.0	31.6	34.4
Macrostickies $\varnothing < 2000 \mu\text{m}$	mm ² /kg	< 500	< 500	< 500
Adhesivity		Absent		
Optical inhomogeneities		see note		

Note

Level 2 on a coloured base with weak or absent inhomogeneities

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4. EVALUATION OF THE RESULT

Based on the test results, the material or product is classified as recyclable or non-recyclable according to the parameters listed in Table 2. There are four levels of recyclability (level A+, A, B, C) and one assessment of non-recyclability with paper, depending on the test results obtained in accordance with the standard UNI 11743:2019. The parameter with the worst value characterizes the class to which the sample belongs.

Table 2 Evaluation criteria for the recyclability (according to Aticelca evaluation method 501:2019)

Evaluation criteria of recyclability*	RECYCLABLE WITH PAPER				NON-RECYCLABLE WITH PAPER
	Level A+	Level A	Level B	Level C	
Coarse Reject (%)**	< 1.5	1.5 - 10.0	10.1 - 20.0	20.1 - 40.0	> 40.0
Macrostickies $\varnothing < 2000 \mu\text{m}$ (mm ² /kg)	< 2500	2500 - 10000	10001 - 20000	20001 - 50000	> 50000
Flakes (%)***	< 5.0	5.0 - 15.0	15.1 - 40.0	> 40.0	-
Adhesion	Absent	Absent	Absent	Absent	Present
Optical inhomogeneity	Level 1	Level 2	Level 3	Level 3	-

Notes

(*) recyclability means the ability of the product to be effectively processed in a technologically and economically efficient way, to reuse the cellulosic fibres which are contained in it, by using the current and most common paper production technologies for the processing of paper for recycling [UNI 11743]. If the sample is classified as "Not recyclable with paper", the material or product is not suitable for separate collection with paper waste. Nevertheless, it can be used in other industrial processes or destined for energy recovery.

(**) in the case of paper showing pulping resistance and which is not coupled with plastics, aluminium or other non-paper materials, if the coarse reject after a 10minute test performance is more than 40%, then the result obtained after 20 minutes may be taken into account. If the value of the coarse reject in case of the 20-minute test is less than 40%, the level C is allowed to be used for the assessment criteria for the "coarse reject" parameter only.

(***) in the case of the presence of clearly identifiable non-cellulosic flakes, the result of the fibre flakes parameter is not evaluated, but the value is added to the coarse reject (calculated on the basis of the weight of the starting product).

This is an unofficial translation. The level of riciclability is determined by evaluation system Aticelca MC 501:2019. Please, for the release of the trademark RICICLABILE CON LA CARTA - Aticelca® 501 contact exclusively Aticelca (Associazione Tecnica Italiana per la Cellulosa e la Carta).

Based on tests results, the sample SILICONE COATED RELEASE PAPER PRINTED (Batch n° AF1047819) is classified as:

Level B

Assessment of Recyclability according to ATICELCA

The level of recyclability is determined according to Aticelca 501:2019 evaluation system. Please contact Aticelca (Associazione Tecnica Italiana per la Cellulosa e la Carta) to apply for the mark (marchio RICICLABILE CON LA CARTA - Aticelca®501), and for any further information on this topic.

References:

1. UNI 11743: 2019. Paper and cardboard - Determination of recyclability parameters of cellulose-based materials and products.
2. ISO 4119:1995 Pulps - Determination of stock concentration
3. EVALUATION SYSTEM ATICELCA 501: 2019 <http://www.aticelca.it/1/upload/sistema_di_valutazione_501_2019.pdf>

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Dott. Nicola Guazzelli

Ordine Reg. Chimici e Fisici della Toscana - N° 2061 Sez. A Chimico

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