

# RECYCLABILITY EVALUATION SERVICE



# OUR RECYCLABILITY EVALUATION SERVICE (RES)

Designed for those producing, specifying, or developing fibre-based packaging, DS Smith's Recyclability Evaluation Service (RES) offers a detailed assessment of your packaging's recyclability, demonstrating our dedication to sustainability and promoting a circular economy.



The Recyclability Evaluation Service utilises the CEPI Harmonised Test Methodology and 4evergreen Recyclability Evaluation Protocol to evaluate the recyclability of fibre-based packaging and suitability for recycling in standard paper mills\*.

*\*A standard paper mill is defined by the typical paper grades used as feedstock for production of new paper. For standard paper mills, these are EN643 grades 1-4, which represents the majority of paper and cardboard packaging placed on the market.*

Customers can expect full testing of their fibre-based packaging undertaken at our Repulpability Laboratory in Kemsley Paper Mill, UK. Packaging is tested against the outlined criteria and customers will receive a detailed report, and recyclability score. Additional services can be provided and are quoted upon request, including further testing and expert consultation on design and product development.



## REDEFINING PACKAGING FOR A CHANGING WORLD

We believe our vision for the packaging industry can play a powerful role in meeting some of the world's complex consumer and sustainability challenges. By innovating and thinking differently we are developing the bespoke strategies our customers want and the environment needs.

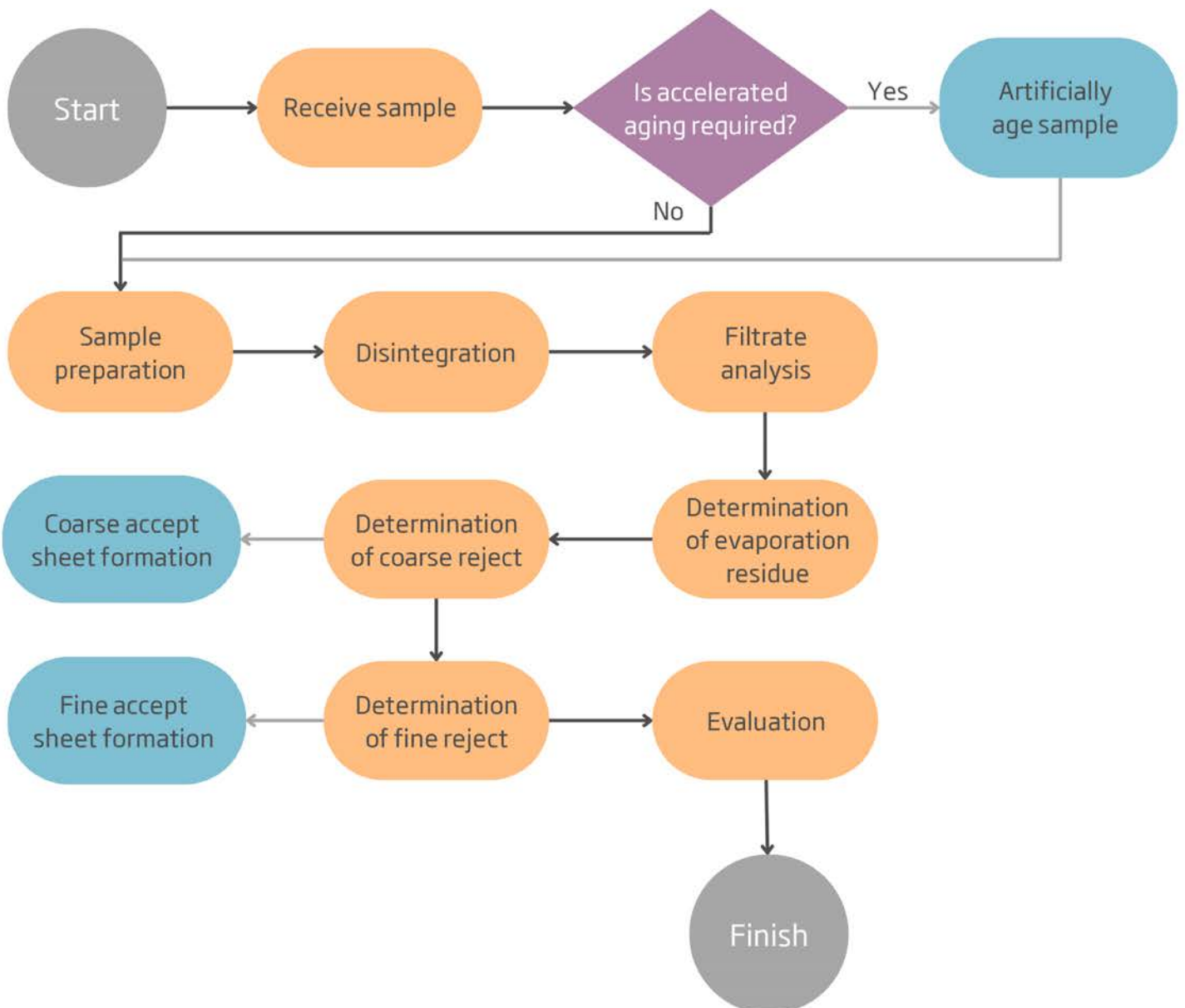
# THE METHODOLOGY

A sample of your fibre-based material weighing between 400-500g (not exceeding this limit) is required for the testing. This sample can take various forms, including conceptual materials, semi-finished products (e.g. without printing), or fully finished, market-ready products.

*For the most accurate assessment of suitability for standard paper mills, we recommend submitting a fully finished product.*

## Recyclability Evaluation Protocol

Methodology Flow Diagram



# UNLOCKING RECYCLABILITY INSIGHTS

After testing is complete, the results are entered in to the 4evergreen Recyclability Evaluation Protocol scorecard, which provides a score ranging from -100 to +100.

The score is determined through a comprehensive assessment of three key properties: Yield, visual impurities, and sheet adhesion. Yield is precisely calculated by considering both coarse reject % and fine reject %.

It's important to note, the evaluation and scorecard are continuously evolving under the stewardship of 4evergreen and future revisions are expected to introduce additional factors, such as colloidal solids, and further tests to assess suitability for specialised paper mills.

*A score below zero indicates that the material may not be suitable for standard paper mills, but holds potential for recycling in specialised paper mills.*

*Results don't guarantee acceptance by any particular mills, as each will have their own feedstock specifications.*



# RECYCLABILITY EVALUATION PROTOCOL

## Results

Scorecard: Yield

Yield	
Score	Description
90 - 100	The method indicated that the packaging is expected not to pose any repulpability issues in the standard mill and is therefore considered <b>best in class</b> .
70 - 89	The method indicated that the packaging has <b>minor repulpability issues</b> that could have limited impact on the recyclability in the standard paper mill.
50 - 69	The method indicates that the packaging has <b>some repulpability issues</b> that affect the process in the standard mill and should therefore not be abundant.
0 - 49	The method indicates that the packaging has some <b>significant repulpability issues</b> that have a significant impact on the process in the standard mill and should therefore be avoided when possible.
< 0	The method indicates that the packaging has <b>major repulpability issues</b> which could stop the process at a standard mill and therefore are not suitable for this mill. It is recommended to evaluate this product with either part II or III.



# RECYCLABILITY EVALUATION PROTOCOL

## Results

Scorecard: Visual Impurities

Visual Impurities		
Level	Score	Description
Level 1	0	Poses <b>no visual quality issues</b> .
Level 2	- 5	Poses <b>minor visual quality issues</b> that can be acceptable in the mix.
Level 3	- 15	Poses <b>some visual quality issues</b> that can be acceptable in the mix for certain types of production.
Level 3	- 30	Poses <b>significant visual quality issues</b> that can be problematic in the mix. <i>Sample is at risk of receiving a KO in future revisions of the Evaluation Protocol.</i>

## Results

Scorecard: Sheet Adhesion

Sheet Adhesion		
Level	Score	Description
Level 1	0	Poses <b>no adhesion issues</b> .
Level 2	0	Poses <b>minor adhesion issues</b> that can be acceptable in the mix.
Level 3	KO	Poses <b>significant adhesion issues</b> that can have significant impact on the process in the standard mill.

# TEST OPTIONS

Test type	What's included
<b>Standard</b> recyclability evaluation test	CEPI harmonised test method, Recyclability Evaluation Protocol scorecard and written report
<b>Express</b> recyclability evaluation test	As above and completed within 2 weeks. <i>Limited slots available.</i>
Optional evaluation <b>consultation</b>	1-hour video consultation with a DS Smith expert to talk through the test process and results

*\*Lead time is from the point at which the order is raised, and test scheduled. Delays in the provision of sample by the customer may result in delays in testing. Customers are advised to ensure that samples arrive with DS Smith at least one week prior to the scheduled testing date.*





# ADDITIONAL TESTING AND CONSULTATION WITH OUR EXPERTS

Additional testing services and consultation from our experts on design and product development can also be provided at an additional cost.

## Additional testing:

In addition to our core testing service, we offer customers the opportunity to delve deeper into the quality of their materials with supplementary tests. These can include fibre-dispersion analysis, ash testing, fibre image analysis, and quality control strength testing, providing you with detailed information about the test undertaken and the results.



## Consultation:

As experts in recycling, papermaking, and packaging, we are well equipped to offer in-depth insights about your materials and provide you with expert consultation on design and product development, enabling you to make informed decisions with confidence. If of interest, please discuss with your account manager.

**To discuss RES further, or book a test:**



Speak to your Account Manager



[recyclability.sales@dssmith.com](mailto:recyclability.sales@dssmith.com)



[dssmith.com/recyclability](https://dssmith.com/recyclability)

