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Sample ID : **WHITE TOP TESTLINER (WTTL)**

	TEST/ INSPECTION	Directive	METHOD	RESULT
*	**Packaging- Requirements For Packaging Recoverable Through Compostıng And Biodegradation. Test Scheme And Evaluation Criteria For The Final Acceptance Of Packaging**	**The General Product Safety Directive (GPSD) (2001/95/EC)**	**EN 13432**	**99 %**

NOTE: This test/inspection result replaces the conformity assessment, can be presented to official institutions, and used in products and brochures.

Seal

Customer Representative

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Scope

This European Standard specifies requirements and procedures to determine the compostability and anaerobic treatability of packaging and packaging materials by addressing four characteristics :

1) biodegradability,

2) disintegration during biological treatment,

3) effect on the biological treatment process and

4) effect on the quality of the resulting compost.

Clause	Requirements	Results
4.1	**Control Of Constituents** Constituents known to be, or expected to become, harmful to the environment during the biological treatment process (see clause 8), in excess of the limits given in Annex A.1, shall not be deliberately introduced into packaging or packaging materials intended to be designated as suitable for organic recovery.	**PASS**
4.2	**General** Except as identified in clause 4.3, assessment of the biological treatability of packagings and packaging components shall include the following 5 assessment procedures as a minimum : - characterization (see 4.2.2) ; - biodegradability (see 4.2.3) ; - disintegration including effects on the biological treatment process (see 4.2.4) ; -compost quality (see 4.2.5) ; - recognizability (see 4.2.6).	**-**
4.2.2	**Characterization** Each packaging material under investigation shall be identified and characterized prior to testing including at least : - information on, and identification of, the constituents of the packaging materials ; -determination of the presence of hazardous substances, e.g. heavy metals ; - determination of the organic carbon content, total dry solids and volatile solids of the packaging material used for biodegradation and disintegration tests.	**PASS**
4.2.3	**Biodegradability** To be designated as organically recoverable, each packaging, packaging material or packaging component shall be inherently and ultimately biodegradable as demonstrated in laboratory tests (clause 6) and to the criteria and pass levels given in Annex A.2.	**PASS**
4.2.4	**Disintegration** To be designated as organically recoverable, each packaging, packaging material or packaging component shall disintegrate in a biological waste treatment process to the criteria and pass levels given in Annex A.3, without any observable negative effect on the process.	**PASS**

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4.2.5	**Compost Quality** To be designated as organically recoverable, no packaging or packaging component thereof, submitted to a biological waste treatment process, shall be recorded as having a negative effect on the quality of the resulting compost.	**PASS**
4.2.6	**Recognizability** The packaging or packaging component which is intended for entering the biowaste stream must be recognizable as compostable or biodegradable by the end user by appropriate means.	**PASS**
4.3.1	**Equivalent Form** A packaging material demonstrated to be organically recoverable in a particular form, shall be accepted as being organically recoverable in any other form having the same or a smaller mass to surface ratio or wall thickness.	**PASS**
4.3.2	**Materials Of Natural Origin** Chemically unmodified packaging materials and constituents of natural origin, such as wood, wood fibre, cotton fibre, starch, paper pulp or jute shall be accepted as being biodegradable without testing but shall be chemically characterized and fulfil the criteria for disintegration (see clause 7) and compost quality (see clause 8).	**PASS**

Disintegration Test

The disintegration test was carried out in a indoor test composting site (pilot-scale test). The sample material was added to artificial biowaste of a composition into an insulated composting bin. The composting process was surveyed by measurement of temperature oxygen content, humidity and Ph. Disintegration was quantified after 12 weeks by sieving. (TABLE 2.) After 12 weeks of composting, the maximum admissible retain on a sieve with a mesh size of 2 mm is 10% DW (EN 13432).

TABLE 2: *Results of the disintegration test (DW:dry weight)*

Composting time (weeks)	Retain on screen mesh > 2mm (% DW)
0	100
2	100[1]
4	63[1]
6	37[1]
8	12[1]
10	5[1]
12	0

[1] *Data from intermediate evaluation*

Biodegradability

CO_2 Determination:

Determination of the amount of carbon dioxide evolved by weighing the carbon dioxide absorbing system. The amount of carbon dioxide is calculated via the difference in the weight of the carbon dioxide absorbing trap in the beginning and in the end of the test.

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Termostat Controlled Oven:

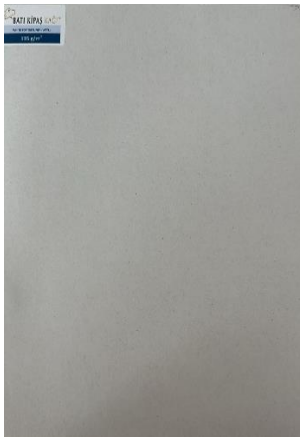
The biodegradation test is proceeded in a temperature controlled oven for maintaining the temperature needed.

	Test material
75 days biodegradation rate	94 %
Overall biodegradation rate	99 %
Test duration	90 days
Observation	No anormal findings

The pH Values Before And After Test

-	Sample
Before Test	6.7
After Test	6.9

Sample Image



*****End of Report*****

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