

# DIN SPEC 55700 – Deinkability Test for Printed Paper Products

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International Association of the Deinking Industry  
(INGEDE)

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## **Content**

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- What is a DIN SPEC?
- Working group and time line
- Content of the DIN SPEC 55700
- Procedure
- Main improvements compared to INGEDE Method 11
- Outlook



## Motivation for DIN SPEC 55700

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- INGEDE Method 11 has been acknowledged for many years but it is not an official standard
- In order to prepare standardisation of deinkability testing methods, INGEDE decided to create a DIN SPEC based on **INGEDE Methods 1, 2 and 11**
- **DIN SPEC 55700** is already a basis for a worldwide ISO standard regarding deinkability testing as the structure has already been established



## What is a DIN SPEC?

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- A DIN SPEC is a technical standard like PAS
- It is a fast track procedure for creating a solid document quite similar to a DIN or ISO standard
- Higher level of consensus than company standards
- Participation is open to anyone
- Reviewed after three years



## Working group

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- **INGEDE e. V.** , Andreas M. Faul
- **Papiertechnische Stiftung (PTS)**,  
Dr. Elisabeth Hanecker
- **Stora Enso Support Centre Mönchengladbach**,  
Peter Hengesbach
- **Steinbeis Papier GmbH**, Dr. Volker Gehr
- **Technische Universität Darmstadt (PMV)**,  
Dr.-Ing. Hans Joachim Putz
- **UPM GmbH**, Dr. Johann Oberndorfer



## Project time line

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- First discussions started in spring 2015
- First meeting at DIN office in Berlin in September 2015
- Several physical and online meetings
- In August 2016 **DIN SPEC 55700 “Paper and Pulp – Deinkability test for printed paper products”** has been published by DIN



## Content of the DIN SPEC 55700 (1/2)

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1. Scope
2. Normative references
3. Terms and definitions
4. Principle
5. Equipment
6. Chemicals
7. Procedure



## Content of the DIN SPEC 55700 (2/2)

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8. Specimen preparation
9. Analysis
10. Test Report

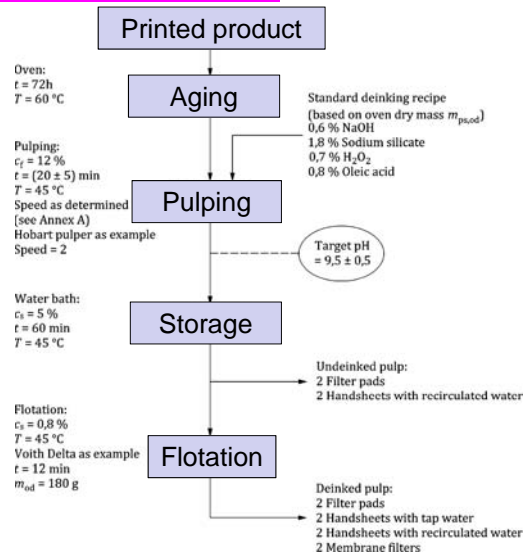
Annex A: Pulping devices

Annex B: Flotation cells

Annex C: Filtration time of filter papers



## Procedure for testing deinkability with standard deinking recipe



## Main improvements compared to INGEDE Method 11

- All relevant procedures like **test sheet preparation** and **measurement of optical characteristics** of pulps and filtrates have been included in one document
- Pulping conditions have been adopted and are now based on **fibre consistency** since paper with high ash content showed insufficient pulping due to low shear resulting in low ink fragmentation/dirt specks



## Main improvements compared to INGEDE Method 11

- 12 % fibre consistency has been defined (compared to 15 % total consistency in INGEDE Method 11)
- 200 g fibre material is used for pulping and the amount of pulping chemicals is adapted accordingly

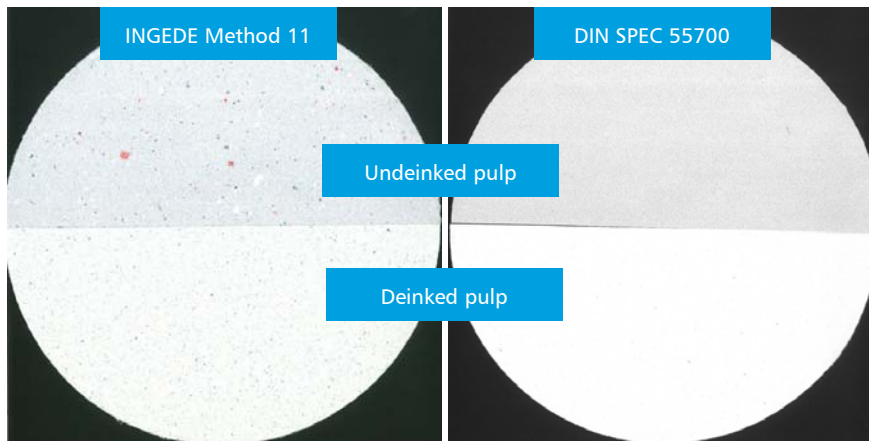


## Main improvements compared to INGEDE Method 11

- Possibility to use pulping equipment of different vendors since **specific energy input for pulping** has been defined with reference pulps
- **Hyper flotation** state has been defined thus it is possible to use different flotation cells for the test
- Specification of filter papers is included
- Some smaller adoptions, e.g. more precise description of equipment and procedures



## Example: paper with high ash content



## Distribution

- Press release
- An offer has been made to all INGEDE members to get a licensed copy of DIN SPEC 55700 for free
- Anybody can order a copy of the DIN SPEC 55700 at Beuth Verlag GmbH



## Outlook

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- INGEDE is currently running a project for comparing deinkability test results obtained with DIN SPEC 55700 compared to INGEDE Method 11 with various printed paper products
- Process for creating an ISO standard has been initiated based on DIN SPEC 55700, will be handled by ISO TC6 WG 14 (Recyclability)

