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**Fibre-reinforced composites —  
Method for accelerated moisture  
absorption and supersaturated  
conditioning by moisture using sealed  
pressure vessel**

*Composites renforcés de fibres — Méthode pour l'absorption  
accélérée de l'humidité et le conditionnement sursaturé en humidité à  
l'aide d'un récipient sous pression scellé*

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## Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

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## Introduction

Mechanical properties of fibre reinforced thermoset or thermoplastics with saturated moisture content under used conditions need to be determined for the specification of these materials. However, the moisture content of the fibre reinforced thermoset or thermoplastic materials immediately after production are usually lower than that during use, because the production process is under a higher temperature and uses dried ingredients for optimum quality control. The fibre reinforced materials absorb moisture under the used conditions and reach a saturated moisture content after a long period, for example after 6 months. Accordingly, the accelerated moisture absorption method (70 °C, 75 % RH) is specified in ASTM D5229/D5229M for determining the properties at saturation. However, the absorption time is still long (over three months) using this method.

This document specifies a method for obtaining practical saturated moisture absorption for effective and shorter research and development process of thermoset and thermoplastic materials. The method uses a sealed pressure vessel at a higher temperature with saturated water vapour condition (120 °C, 0,2 MPa of water vapour pressure).

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