

Polytetrafluoroethylene (PTFE) materials and products —

Part 2: Specification for fabricated unfilled polytetrafluoroethylene products

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Plastics and Rubber Standards Policy Committee (PRM/-) to Technical Committee PRM/31, upon which the following bodies were represented:

- British Fluoropolymers Processors' Group
- British Plastics Federation
- British Valve and Actuator Manufacturers' Association
- Engineering Equipment and Materials Users' Association
- Ministry of Defence

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Foreword

This Part of BS 6564 has been prepared under the direction of the Plastics and Rubber Standards Policy Committee. It is a revision of BS 6564-2:1985 which is withdrawn.

In this Part of BS 6564, grade A1 is a “premium” grade, intended for applications in which the highest quality is required, and grades A and B are intended for normal usage, with grade B denoting the lowest quality specified in this standard.

This Part of BS 6564 does not include any detailed information on machining tolerances but it should be noted that some difficulty in achieving closely controlled dimensions may be experienced when working with PTFE. The British Fluoropolymers Processors’ Group has published a document¹⁾ which gives guidance on this subject.

Certain fabricated unfilled PTFE products are covered by other British Standards; requirements for unsintered PTFE tape for thread sealing are specified in BS 4375, requirements for PTFE insulating sleeving for electrical purposes are specified in BS 2848 and requirements for PTFE identification sleeves for electrical cables and equipment wires in aircraft are specified in British Standard 2G 198-2.

Further Parts and Sections of BS 6564 are as follows:

- *Part 1: Polytetrafluoroethylene powders for moulding and extrusion;*
- *Section 1.1: Specification;*
- *Section 1.2: Method of specifying;*
- *Part 3: Specification for fabricated glass fibre filled polytetrafluoroethylene products.*

NOTE 1 In BS 6564-3 the first element of the designation for fabricated glass fibre filled PTFE products will be the letter “G” followed by a figure representing the nominal filler content. The remainder of the designation will correspond to that specified for unfilled PTFE fabricated products in this Part of BS 6564 (see clause 2).

WARNING It is essential that tobacco products are kept well away from areas where they could be contaminated by PTFE dust. The smoking of tobacco products contaminated by PTFE can result in a temporary, flu-like condition, known as “polymer fume fever”. This condition is the only adverse effect observed in humans to date. The symptoms do not ordinarily occur until several hours after inhalation of the fumes and pass off within 36 h to 48 h even in the absence of treatment. Observations indicate that these attacks have no lasting effects and that the effects are not cumulative.

When heated above 260 °C, PTFE will begin to degrade and the rate of degradation will increase with increasing temperature. The gases produced during degradation will vary according to the temperature and other conditions but will invariably contain toxic components and good ventilation is therefore essential.

NOTE 2 It is strongly recommended that users of this standard refer to BFPG Publication No. 254/1, *Industrial health and safety for PTFE polymers*²⁾ for further information.

¹⁾ Publication No. 284/1, *Code of practice for machining tolerances for components machined from PTFE*, which may be purchased from the British Fluoropolymer Processors’ Group, 5 Belgrave Square, London SW1X 8PH.

²⁾ This publication may be purchased from the British Fluoropolymers Processors’ Group, 5 Belgrave Square, London SW1X 8PH.

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Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

