

TECHNICAL SPECIFICATION

Surface cleaning appliances –
Part 1: General requirements on test material and test equipment

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TECHNICAL SPECIFICATION

**Surface cleaning appliances –
Part 1: General requirements on test material and test equipment**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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WILTON

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SURFACE CLEANING APPLIANCES –**Part 1: General requirements on test material and test equipment**

FOREWORD

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62885-1, which is a technical specification, has been prepared by subcommittee 59F: Surface cleaning appliances, of IEC technical committee 59: Performance of household and similar electrical appliances.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
59F/295A/DTS	59F/306/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 62885 series, under the general title *Surface cleaning appliances*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

IEC technical subcommittee 59F has agreed to make a collection of existing and future test equipment and materials used in testing surface cleaning equipment and to publish this collection as a Technical Specification, which it intends to keep up to date. The existing Annexes published on the IEC web will be integrated in this Technical Specification step by step.

This first edition includes only the Wilton carpet for interlaboratory tests. Further carpet specifications may follow.

It is also the intention to supplement this Technical Specification with other test materials and WG 9 (Surface cleaning appliances – Review of test carpets specification and carpet availability and supply) is currently looking into possibilities to add specifications concerning the various kinds of dust used.

With this initiative SC 59F will ensure a minimum of test material types and common use of these materials in tests of various surface cleaning appliances.

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Wilton

SURFACE CLEANING APPLIANCES –

Part 1: General requirements on test material and test equipment

1 Scope

This part of IEC 62885 specifies the physical characteristics of test equipment and material used in tests common for several products covered by standards in the IEC 62885 series for surface cleaning appliances. In addition, it provides guidance regarding the evaluation of Wilton and other types of carpets to determine their acceptability for testing.

NOTE Currently, this specification covers only the Wilton carpet.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62885-2:2016, *Surface cleaning appliances – Part 2: Dry vacuum cleaners for household or similar use – Methods for measuring the performance*

ISO 1763, *Carpets – Determination of number of tufts and/or loops per unit length and per unit area*

ISO 1765, *Machine-made textile floor coverings – Determination of thickness*

ISO 1766, *Textile floor coverings – Determination of thickness of pile above the substrate*

ISO 1833, *Textiles – Binary fibre mixtures – Quantitative chemical analysis*

ISO 2060, *Textiles – Yarn from packages – Determination of linear density (mass per unit length) by the skein method*

ISO 2061, *Textiles – Determination of twist in yarns – Direct counting method*

ISO 2424, *Textile floor coverings – Vocabulary*

ISO 6989, *Textile fibres – Determination of length and length distribution of staple fibres (by measurement of single fibres)*

ISO 8543, *Textile floor coverings – Methods for determination of mass*

BS 4223, *Methods for determination of constructional details of carpets with yarn pile*

BS 8459, *Determination of extractable matter in textiles. Method*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 interlaboratory testing

testing the same samples in different laboratories, with different operators, and comparing the results

4 Carpet construction specification

4.1 Wilton carpet

The Wilton carpet shall be woven from wool yarn to the specifications provided in Table 1. Given that wool is a natural fibre, it should be understood that some variability would exist in the final product.

The carpet used for performance testing of vacuum cleaners is classified and specified by the following characteristics.

Table 1 – Wilton carpet construction specifications

Type	Wilton	Tolerance	Test method/Standard
Pile composition	Wool 8,6/2*2		
Yarn count	8,6/2*2		ISO 2060
Wool composition	80 % New Zealand – 20 % British		ISO 1833
Average fiber length	80/85 mm		ISO 6989
Spinning process	Semi-worsted		
Spin rotations per meter	270		ISO 2061
Spin rotation direction	Z		ISO 2061
Ply twist coefficient	155		ISO 2061
Twisted rotation direction	S		ISO 2061
Moth protection treatment	0,1 % fermentol 12 %		
Color dye (pigment)	metal complex dye: type Neolan		
Residual oil content	<0,60		BS 8459
Method of manufacturing	Wilton fabric – Jackard weaving		ISO 2424
Color	Dark, one color		ISO 2424
Backing	Jute and cotton + latex		ISO 2424
Type	Cut – Pile		ISO 2424
Total thickness	9,2 mm	±5 %	ISO 1765
Thickness of pile above the substrate	6,6 mm	±5 %	ISO 1766
Total mass/m²	2 300 g/m ²	±5 %	ISO 8543
Total mass of pile above the substrate/m² (effective pile not the total pile. Determined on finished carpet)	1 260 g/m ²	±5 %	ISO 8543
Number of tufts/m²	96 000 knots/m ²	±5 %	ISO 1763
Tuft density	960	±6 %	BS 4223
Reed	320 r/m		
Shots	300 sh/m		

Type	Wilton	Tolerance	Test method/Standard
Standard manufactured width	250 cm		
Latex – Specification	CTF2000 TEXCOAT M.BC 5 Polymer for pile anchorage		

4.2 Verification of new carpets

4.2.1 Construction verification

The new carpet shall meet the construction specifications provided in Table 1.

Annex A provides an example of an evaluation of the initial production run of BIC4 carpeting.

4.2.2 Performance verification

Additionally, interlaboratory testing shall be conducted to verify the measured performance values for the RSB vacuum cleaner with the passive nozzle and an active vacuum cleaner. A minimum of six laboratories shall test the same vacuum cleaners on samples of the new carpet and the previous carpet unique to each laboratory. Each carpet shall be tested in accordance with IEC 62885-2:2016, 5.3 and 6.2 by each laboratory and the results of the two carpets shall be compared to determine differences between the old and new production runs as well as overall variability of the new production run.

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Annex A (informative)

Initial production run of the BIC4 Wilton carpet

Table A.1 shows the evaluation of the test results of BIC4 Wilton carpets.

Table A.1 – Test results for BIC4 Wilton carpets

Reference	Measured values
Construction	Woven, cut-pile Wilton
Material	Wool
Row	$30,1 \pm 0,1$
Pitch	$32,7 \pm 0,2$
Tuft density	$(985 \pm 7) \text{ dm}^2$
Total carpet weight	$(2\,222 \pm 97) \text{ g/m}^2$
Pile weight above substrate	$(1\,249 \pm 40) \text{ g/m}^2$
Total carpet thickness	$(8,8 \pm 0,5) \text{ mm}$
Pile thickness above substrate	$(6,6 \pm 0,4) \text{ mm}$
Surface pile density	$(0,185 \pm 0,003) \text{ g/cm}^3$
Oil content of pile	$(0,004\,8 \pm 0,000\,8) \%$

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