

Specification for

Braided nylon cord with unspecified dimensional stability for aerospace purposes

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Aerospace Standards Policy Committee (ACE/-) to Technical Committee ACE/22, upon which the following bodies were represented:

- British Association of Clothing Machinery Manufacturers
- British Narrow Fabrics Association
- British Textile Employers' Association
- Cordage Manufacturers' Institute
- Lambeg Industrial Research Association
- Linen Sewing Thread Manufacturers' Association
- Ministry of Defence
- Society of British Aerospace Companies Ltd.
- Society of Dyers and Colourists

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Foreword

This British Standard, prepared under the direction of the Aerospace Standards Policy Committee, is one of a series for textiles of a quality suitable for aerospace purposes. During its preparation account has been taken of the fact that basic quality requirements are included in the latest edition of British Standard F 100.

This edition of this standard introduces revised construction for cord SB 612 to achieve breaking strength requirements, and a PVC treatment for cord SC 714 for special applications. It supersedes BS F 135:1987 which is withdrawn.

This edition introduces technical changes but it does not reflect a full review or revision of the standard, which will be undertaken in due course.

This standard specifies requirements for braided nylon cord with unspecified dimensional stability manufactured from non-twist set yarn and/or twist set yarn as previously described in Ministry of Defence DTD Specification 5620, which BS F 135:1987 replaced. It differs from DTD Specification 5620 primarily in that prestabilized yarns are now permitted.

Braided nylon cord with specified dimensional stability, manufactured from twist set yarn, as previously described in Ministry of Defence DTD Specification 5620 is specified in British Standard F 132.

The quality assurance authority referred to in this standard is as stated in the contract or order, or the accredited representative of the authority stated, as instructed by the prime contractor.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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 and ii, pages 1 to 8, 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.

1 Scope

This British Standard specifies requirements for braided nylon cord of unspecified dimensional stability, manufactured from non-twist set yarn and/or twist set yarn for aerospace purposes.

NOTE The latest revision, or a new edition, of an Aerospace Series standard is indicated by a prefix number.

2 References

2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this British Standard only when incorporated in it by updating or revision.

2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 General requirements

In addition to the requirements specified in clauses 4 to 7 of this standard, the following clauses of the latest issue of British Standard F 100 shall apply (see Table 1).

4 Yarn

4.1 The cord shall be manufactured from continuous filament bright nylon 6.6 yarn, which shall have the tenacity and extension at break as given in Table 2.

4.2 The yarn shall conform to the properties given in Table 2 to the satisfaction of the quality assurance authority when assessment is based on the manufacturer's quality control procedures.

NOTE In case of dispute, the tenacity and extension at break results shall be determined by the method of test and sampling given in BS 1932-1:1989 and BS 2010:1963.

4.3 The yarn shall not be sized.

5 Construction and properties

5.1 General

5.1.1 The cords shall be braided from yarns which conform to the relevant requirements of Table 2 to Table 8.

5.1.2 The construction and properties of the finished cords shall conform to Table 3 to Table 8, **5.2**, clause **6** and clause **7**.

NOTE The cords listed in Table 3 to Table 8 do not require the use of twist set yarns, though their use is permitted.

5.2 Sheath slackness and core looping

Finished cords constructed as given in Table 3, Table 4 and Table 5 shall exhibit a maximum of 3 mm sheath slackness, and shall be free from core looping.

6 Finish

6.1 General

The cord shall be supplied in one of the following conditions:

- a) undyed; or
- b) dyed.

NOTE 1 When dyed cord is required, an increase in the mass per unit length of 10 % over that specified in Table 3 to Table 8 is permitted.

NOTE 2 Cord designated SC 714 may be supplied in the undyed condition and treated with polyvinyl chloride (PVC) composition (see **6.3**) where PVC treatment is identified as a requirement in the purchaser's contract or order.

6.2 Dyeing

6.2.1 Where dyeing is required, the colour shall be specified with reference to a British Standard, e.g. BS 381C or otherwise by pattern.

6.2.2 Where dyeing is required, the yarns from which the cord is manufactured shall be dyed. Dyeing of cords shall not be permitted after manufacture.

6.3 Polyvinyl chloride treatment

6.3.1 When polyvinyl chloride treatment is specified by the purchaser's contract or order, cord SC 714 shall be processed as follows.

- a) Wet treat to remove the spin finish and then heat set at 180 °C to 185 °C.
- b) Treat with a water based polyvinyl chloride composition.

NOTE A currently acceptable PVC finishing process gives an increase of 10 % by mass of the finished cord.

6.3.2 The breaking strength of the PVC treated cord shall be not less than the breaking strength of the untreated cord.

6.3.3 Cord with this finish shall be identified for ordering purposes by the addition of the words "polyvinyl chloride treated", or suffixed "PVC" if codified.