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Nonwovens — Vocabulary

Nontissés — Vocabulaire

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Foreword

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*.

This third edition cancels and replaces the second edition (ISO 9092:2011), which has been technically revised. The main changes compared to the previous edition are as follows:

— the scope has been expanded to cover auxiliary terminology to distinguish nonwovens from other materials.

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.

Nonwovens — Vocabulary

1 Scope

This document establishes a definition for the term nonwovens and provides auxiliary terminology to distinguish nonwovens from other materials.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 General

3.1.1
nonwoven
engineered (3.1.2) fibrous assembly, primarily planar, which has been given a designed level of structural integrity by physical and/or chemical means, excluding weaving, knitting or papermaking

3.1.2
engineered
anything that benefited from an application of science to design, plan and manufacture products to utility specifications

3.1.3
fibrous assembly
predetermined amount and arrangement of natural or manufactured fibrous material such as, but not limited to fibres, continuous filaments, or chopped yarns of any length or cross-section

Note 1 to entry: It can be a two- or three-dimensional alignment of fibrous materials made by a web forming process.

3.1.4
structural integrity
measurable level of added tensile strength

3.1.5
physical and/or chemical means
bonding technologies that result in frictional forces between fibres (through entanglement) or adhesive forces between fibres (with or without the use of binders)

3.1.6
paper making
process of producing a thin material by pressing together, short, refined cellulose fibres formed on a screen from a water suspension of these fibres, and drying them, with hydrogen bonding as the predominant mechanism holding the web together

Note 1 to entry: The refined fibres plus the self-bonding that occurs between cellulose fibres during drying distinguish paper from wet-laid nonwovens.

Note 2 to entry: When re-wet, the hydrogen bonds between fibres are broken, and paper typically loses almost all of its strength.

3.2 Auxiliary terminology to distinguish nonwovens from other materials

3.2.1
wet laid process that is not paper making
wet laid process where cellulose or other fibres are engineered to a level of structural integrity primarily by physical and/or chemical means other than hydrogen bonding

Note 1 to entry: Most materials made through a papermaking process are classified as paper products per ISO 4046-3, but some might be classified as nonwovens, particularly where clear differentiation between the primary means of bonding is not possible.

3.2.2
films
films cast, blown or extruded from polymers, which then through physical or chemical means are made into fibrous assemblies

Note 1 to entry: These can be considered nonwovens if the length over diameter (L/D) ratio of the fibrous elements is over 30

3.2.3
stitchbond
materials primarily fibrous and engineered to a given level of integrity by physical means for specific applications and the warp or circular knit stitching is the additional bonding technology

3.2.4
wadding
high-loft assemblies, primarily fibrous, engineered to a given level of integrity by physical means for specific applications

Note 1 to entry: Waddings are not woven or knitted and can be considered a high-loft nonwoven when bonded throughout the assembly.

3.2.5
nonwoven composites and nonwovens in multi-component structures
nonwoven composites (hybrid nonwovens) and nonwovens that are combined with other discrete materials are to be considered as nonwovens