



# American National Standard for Financial Services

## ANSI X9.100-10-2011

### Paper for MICR Documents



Developed by:  
Accredited Standards Committee X9, Incorporated  
Financial Industry Standards

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American National Standards Institute

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## Foreword

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**Introduction**

This publication describes the physical characteristics and the specifications established for documents to be processed in any equipment used by the banking industry or other financial institutions in the paper document transfer payment system. This standard is the result of an extensive cooperative effort by representatives from financial institutions, paper check manufacturers, printer hardware and software manufacturers, ink and toner manufacturers and paper manufacturers.

For a number of years the ANS X3.3-1970 *Bank Check Specifications for Magnetic Ink Character Recognition* and American Bankers Association publication 147R3 *Common Machine Language for Mechanized Check Handling* stated that grain long and short 24 lb. documents were suitable for checks. That definition was not adequate for documents processed in high-speed document transports. The specifications listed in this publication will make it possible for the industry to better utilize the higher speed and more sophisticated technologies presently in use, and those that will be forthcoming. Included among the documents that may be expected to change as a result of this standard will be internal use documents such as cash tickets, general ledger documents, batch tickets, other non-negotiable instruments, etc.

In 2003, the ASC X9B revised the protocol by which all standards for check related transactions were named. The ASC X9B membership felt the specifications for core requirements for MICR, paper, imaging and optical reading should be separated from the specifications written for the application of these core elements. As a result, this standard's name was changed from its former reference of ANS X9.18 *Paper Specifications for Checks* to its current title of ANS X9.100-10 *Paper Specifications for MICR Documents*.

Suggestions for the improvement or revision of this Standard are welcome. They should be sent to the X9 Committee Secretariat, Accredited Standards Committee X9, Inc., Financial Industry Standards, P.O. Box 4035, Annapolis, MD 21403 USA.

This Standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Financial Services, X9. Committee approval of the Standard does not necessarily imply that all the committee members voted for its approval.

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This document cancels and replaces all previous issues of ANSI X9.18 Paper Specifications for Checks and ANSI X9.100-10–2006 Paper Specifications for MICR Documents.

This standard is designated as a core standard by the X9AB Payments subcommittee and is named within the listing of core standards designated in X9 TR100 Organization of Standards for Paper-based and Image-based Payments.

# Paper Specifications for MICR Documents

## 1 Scope and Purpose

### 1.1 Scope

This standard establishes paper specifications for the MICR documents that are used in the US Payments System. While checks and deposit tickets are the primary documents considered in these specifications, users of MICR/OCR E-13B font readers will be well served by applying these specifications to internal documents, when intended for use in reader/sorters.

This standard gives specifications to those attributes most important and most common both to raw base stock and to finished printed products of MICR documents. When available, methodology for measurements of the various paper attributes shall conform to those of the Technical Association of Pulp and Paper Industry (TAPPI).

The specifications state what are considered to be the appropriate requirements for paper documents intended for external processing from the viewpoint of the end user, namely the institution performing post encoding in proof-of-deposit applications and those that operate reader/sorter equipment for in-clearing and transit clearing applications. Nonetheless, these same specifications are also considered appropriate requirements for paper before any print process is applied to base stock. Base stock, either from rolls or from sheets, must meet the specifications as well as fully processed, end user documents.

Paper specifications from the standpoint of fraud prevention and security are not given within this standard. The various features that paper can have that hinder fraud and aid authentication of original document are addressed in ANSI X9.100-170 Check Fraud Deterrent Icon standard and in X9/TR 8 Check Security. Although reference may be made within this standard to various commonly used paper-based security features, setting specifications for paper-based security features are excluded from the scope of this standard.

There are additional paper characteristics important to document printers and end users in terms of printability and mechanical performance in their individual operations that are related to document performance. Paper characteristics such as moisture content, filler content, brightness, pH, coefficient of friction, ink absorption, etc., are quite variable within the industry and are not covered in this standard because many of them are not measurable by the end user due to exposure to other conditions during the manufacturing processes.

### 1.2 Purpose

The reasons for specifying and defining the particular paper properties addressed in this standard are to assure that paper documents entering automated sorting systems meet minimum physical strength and surface characteristics to withstand the rigors of individual handling and multiple sorts through reader/sorters. This standard provides reasonable assurance, in so far as the paper itself is concerned, that the physical requirements for banking purposes are met.

Experience has shown that these properties specified herein are necessary for the efficient automated handling of paper documents in order to survive multiple passes through high-speed reader/sorters. The paper attributes specified within this standard can be measured using existing equipment according to the established testing procedures that are common to the paper industry as described by the Technical Association of Pulp and Paper Industry (TAPPI), unless other allowances are described herein with a specific paper attribute.