



Designation: F 1125 – 87 (Reapproved 2000)

Standard Terminology of Image Quality in Impact Printing Systems¹

This standard is issued under the fixed designation F 1125; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This terminology presents a means to accurately describe the quality of impact printed images. This includes an up-to-date glossary and a description of probable causes for specific phenomena that relate to image quality. Illustrations to complement the definitions of copy quality terms are included.

2. Referenced Documents

2.1 ASTM Standards:

- F 149 Terminology Relating to Optical Character Recognition²
- F 221 Terminology Relating to Carbon Paper and Inked Ribbon Products and Images Made Therefrom²
- F 909 Terminology Relating to Printers²

3. Significance and Use

3.1 This terminology includes terms developed and approved by impact printing systems manufacturers, supplies manufacturers, and end users to describe most image quality parameters concerning impact printed images.

3.2 This terminology is intended to aid in general communications on impact printer copy quality parameters and provide a partial trouble shooting list, when less than acceptable copy quality is obtained.

4. Descriptions of Terms Specific to This Standard

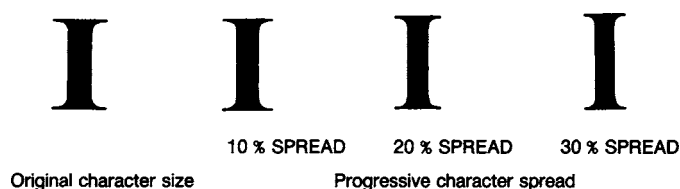
4.1 *character spread*—amount of change of a character width greater or less than the original character width on the type element, printwheel, or hammer (see Fig. 1).

4.2 *correctability*—measure of image removal or cover-up by typing over with correction tapes or tabs (see Fig. 2).

4.3 *edge definition*—degree of waviness along the edge of type characters (see Fig. 3).

4.4 *extraneous ink and spatter*—the presence of ribbon ink where no images should be present. This ink cannot be removed by wiping lightly (see Fig. 4).

4.5 *fill-in*—presence of ribbon ink in an area of a printed character that should be void of ink (see Fig. 5).

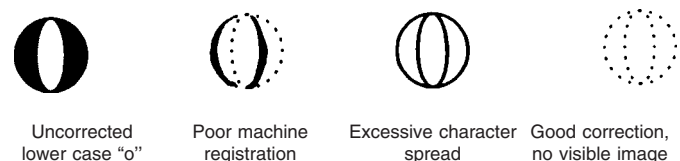


NOTE 1—See 4.1 for a description of this term. Probable causes are as follows:

- (1) Amount of ink on ribbon,
- (2) Ink formulation,
- (3) Type of ribbon (for example, single strike correctable or multistrike),
- (4) Type of paper used,
- (5) Type font used,
- (6) Condition of the type element, printwheel, or hammer (for example, worn or dirty),
- (7) Condition of the typewriter platen roll; and
- (8) Hammer energy used.

FIG. 1 Character Spread

4.6 *flaking or bridging*—presence of loose ribbon coating material attached to a character or in nonimage areas which may or may not be removed by lightly wiping. These flakes may also appear in ribbon cartridges and as dirt in the machine being used (see Fig. 6).



NOTE 1—See 4.2 for a description of this term. Probable causes are as follows:

- (1) Rough, cockle, or heavy laid paper surfaces,
- (2) Poor lift-off or cover-up material,
- (3) Excessive hammer energy,
- (4) Excessive coating on ribbon,
- (5) Poor machine registration during overprinting with correction tape tab,
- (6) Paper not in uniform contact with the platen roll,
- (7) Platen roll needs reconditioning or replacement,
- (8) Wrong type of correction material for ribbon used,
- (9) Excessive line spread due to worn printwheel, and
- (10) Noncorrectable ribbon used.

FIG. 2 Correctability

¹ This guide is under the jurisdiction of ASTM Committee F05 on Business Imaging Products and is the direct responsibility of Subcommittee F05.01 on Nomenclature and Definitions.

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² Annual Book of ASTM Standards, Vol 15.09.



Example of good edge definition or a good reproduction of the character on the element used to create the image.



Moderate edge definition



Poor edge definition

NOTE 1—See 4.3 for a description of this term. Probable causes are as follows:

- (1) Amount of ink on ribbon,
- (2) Ink formulation,
- (3) Type of ribbon (for example, single strike correctable or multistrike),
- (4) Type of paper used,
- (5) Type font used, and
- (6) Worn or damaged printwheel, element, or hammer.

FIG. 3 Edge Definition

4.7 *over-strike*— a void on a printed character due to striking over the same area of the ribbon as the previous character when using a single strike ribbon (see Fig. 7).

4.8 *smudge*—tendency of a typed image to streak on to adjacent nonimage area when rubbed (see Fig. 8).

4.9 *spalling or hangers*—presence of loose ribbon coating material attached to a character which may be removed by wiping lightly. Smears may result if the loose material is disturbed, especially when encountered on multistrike ribbons (see Fig. 9).

4.10 *visual density*— the relative darkness of impact printed characters as judged by the eye (see Fig. 10).

4.11 *voids or broken characters*—absence of ink within character outline (see Fig. 11).

NOTE 1—Additional terms may be found in Terminology F 149, F 221, and F 909.

5. Interpretation

5.1 The probable cause of obtaining less than acceptable copy quality could be one or more of the defects listed in Section 4, or a cause(s) not currently listed, or both.