



Standard Guide for Selection of Scales for Metric Building Drawings¹

This standard is issued under the fixed designation E 713; 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.

This standard has been approved for use by agencies of the Department of Defense.

^{ε1} NOTE—Section 10 was added editorially in April 1999.

INTRODUCTION

When metric (SI) units are used in building design and construction, the need arises to show metric drawings in decimally compatible scale ratios to facilitate their production and interpretation with decimally graduated scale instruments.

This guide responds to that need by recommending a range of preferred scales for different types of building drawings.

1. Scope

1.1 This guide specifies recommended scales for architectural, building product, and building drawings using metric (SI) units of measurement, and measured with scale instruments graduated in millimetres. Preferred scales are listed for various types of drawings.²

2. Presentation of Scales

2.1 *General*—A scale should be stated on every drawing. The scale may be indicated as a ratio prefixed by the word “scale,” for example, “SCALE 1:100.” Alternatively, a graphic (drawn) scale may be shown as a reference scale.

2.2 *Single Scale*—Where only one scale is used on a drawing sheet, the scale should preferably be indicated in or near the title block.

2.3 *Multiple Scales*—Where two or more scales are used on the same drawing sheet in order to provide different levels of detail, each scale should be clearly indicated, preferably below each particular title. A notation “SCALES AS SHOWN” should also be indicated in or near the title block.

2.4 *Scale Enlargement or Reduction*—Where it is likely that a drawing may be reproduced at a reproduction ratio other than the scale shown, it is recommended that a graphic (drawn) reference scale (as shown in Fig. 1) be added to provide a visual indication of the amount of enlargement or reduction. It is also recommended that prints enlarged or reduced in size be stamped to indicate that they are no longer to scale, for

example, “REPRODUCTION NOT TO SCALE—RATIOS SHOWN.”

2.5 *Dimensions Not to Scale*—Where it is necessary to indicate that a dimension on a scale drawing is not to scale, the abbreviation “NTS” (not to scale) should be added.

3. Selection of Scale

3.1 Careful consideration should be given to the selection of suitable scales in metric building drawings. The following factors influence that selection:

3.1.1 The need to communicate both accurately and adequately the information necessary to carry out the intentions of the design.

3.1.2 The need to achieve economy of effort and time in the preparation and interpretation of drawings.

3.1.3 The character and size of the drawn subject (for example, house plans are generally drawn to a larger scale than plans for commercial buildings).

3.1.4 The desirability of keeping the drawing sheets for a project to one size.

3.1.5 The characteristics and capabilities of reproductive and microfilming facilities used.

4. Scale Ratios

4.1 Scales for use with metric (SI) drawings are expressed as ratios only.

4.2 A scale of 1:100, for example, indicates that every dimension on the drawing is 100 times as large in production or construction; 1 mm on the drawing represents 100 mm, 10 mm represents 1000 mm (1 m), etc.

5. Drawing Types

5.1 For the purpose of classifying suitable scale ratios, the

¹ This guide is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E06.62 on Coordination of Dimensions for Building Materials and Systems.

Current edition approved July 29, 1988. Published September 1988. Originally published as E 713 – 80. Last previous edition E 713 – 80 (1985)^{ε1}.

² Available from American National Standards Institute, 11 West 42nd Street, New York, NY 10036.