Test Devices by SCHENCK

571 Main Street, Hudson, MA 01749, USA | Tel: (978) 562-6017 Fax: (978) 562-7939 | www.testdevices.com

Engineering Specification TES-003

Engineering Specification Name: **Identification Marking**		Issued By: **Engineering**
Rev.: R002	Eff. Date: **8/12/2024**	Page **1**

1.0 Purpose: The purpose of this engineering standard is to define the approved methods for marking components that will ensure positive identification.

2.0 Scope: This engineering standard outlines all approved methods for marking components and assigns classifications to define when specific types of marking can be used. Test Devices documentation, including drawings, will reference this specification and specify the class to be used.

3.0 Definitions:

3.1 Electrolytic Etch: Applied markings are produced by removing material with an electrolysis process confined to the area of the characters by a stencil.

3.2 Machine Engraving: Marking is machined into part using the character engraving function of a CNC machine.

3.3 Stamping: Applied markings are produced individually or in groups by impact force produced manually or mechanically.

3.4 Vibropeen / Vibropencil: Applied markings are produced by displacement of material by a rapidly vibrating conical tool tipped with a spherical radius. Can be applied manually or by machine.

3.5 Laser Engrave: Applied markings are produced by the removal of material with a laser beam.

3.6 Dot Peening: Applied markings are a matrix of dot indentations by a controlled impingement process.

APPROVALS		
Engineering	HE 08/12/24	
Quality	Tami Fernandes Tami Fernandes 2024.08.12 10:30:16 -04'00'	

Revision Log		
Revision	Summary of Changes	Rev. Date
R000	Initial Release	3/18/11
R001	Changed 3.3 “Hammer” marking to Stamping, Added Vibropencil to 3.4, Added 3.8 Ink Stamping, 3.9 Paint Stenciling, and 3.10 Adhesive labeling. Revised existing class definitions to clarify their application. Changed class 3 marking to include stamping. Added class 6 ink marking and adhesive labeling.	2/1/2012
R002	Added Section 5.2 to define how parts will be marked when made at Test Devices	8/12/2024

3.7 Bag & Tag: Identification is applied to the outside of bags, or tags inserted into the bags, for each individual component.

3.8 Permanent Ink Stamp: Applied markings are produced by stamping the indicated location with a stamp that uses black water resistant permanent ink.

3.9 Permanent Ink/Paint Stencil: Applied markings are produced by applying black water resistant permanent ink or permanent paint confined to the area of the characters by a stencil.

3.10 Adhesive label: Identification is applied by printing on to an adhesive label and applying the label to the indicated location. Surface of part must be clean and oil free prior to applying label.

4.0 Responsibility: It is the responsibility of Test Devices engineering manager to ensure this standard is maintained and updated continuously.

5.0 Marking Format:

5.1 The following marking format will apply for all marking classes and locations on parts purchased and manufactured by outside Vendors. Parts will be marked in the area indicated on the drawing, per the class specified (see below) and will include:

5.1.1 Part Number
5.1.2 Drawing Revision Level
5.1.3 TD Purchase Order Number
5.1.4 Serial Number (starting with 001)

Ex.: **1359-B0295 A PO 15426 S/N 001**

5.2 The following marking format will apply for all marking classes and locations on parts manufactured at Test Devices. Parts will be marked in the area indicated on the drawing, per the class specified (See Below) and will include:

5.2.1 Part Number
5.2.2 Drawing Revision Level
5.2.3 Date manufactured (Month/Day/Year) which will be the date on the traveler that machining was signed off as complete.
5.2.4 Serial Number (starting with 001)

Ex.: **1359-B0295 A 08/12/2024 S/N 001**

6.0 Engineering Standard: The classes below define the acceptable marking methods approved by Test Devices' engineering department. Any alternate marking methods must be requested and approved by Test Devices' engineering department before the alternate marking methods are applied.

6.1 Class 1: Marking of precision machined parts where more invasive marking procedures may compromise the integrity or function of the part.

The maximum allowable character height is .250 inches.

The following marking methods are approved for rotating hardware applications.

6.1.1 Electrolytic Etch – max depth of .0003 inches

6.1.2 Laser Engrave – max depth of .0004 inches

6.1.3 Dot Peening – depth of .0002 - .0007 inches

6.2 Class 2: Marking of precision machined parts where slight surface imperfections (less than .006 inches deep) are tolerable.

The maximum allowable character height is .250 inches.

The following marking methods are approved for precision machined hardware applications.

6.2.1 Electrolytic Etch – max depth of .006 inches

6.2.2 Vibropeen / Vibropencil– max depth of .006 inches

6.2.3 Laser Engraving – max depth of .006 inches

6.3 Class 3: Marking of non-rotating components where any of the methods listed under class 2 will be acceptable in addition to stamping.

The maximum allowable character height is .250 inches.

The following marking methods are approved for sheet metal hardware applications.

6.3.1 Electrolytic Etch – max depth of .006 inches

6.3.2 Vibropeen – max depth of .006 inches

6.3.3 Laser Engraving – max depth of .006 inches

6.3.4 Stamping – max depth of .010 inches

6.4 Class 4: Marking of non-rotating machine components subjected to environments where other marking methods would become damaged or otherwise illegible.

The maximum allowable character height is .500 inches.

6.4.1 Machine Engraving – max depth of .025 inches

6.4.2 Stamping – max depth of .025 inches

6.4.3 Dot Peening – max depth of .025 inches

6.5 Class 5: Marking of components which are too small or would be degraded due to the use of integral marking methods will by identified by a “bag & tag” method. Components will be individually bagged and marked per the marking format outlined in section 5.0.

6.6 Class 6: Marking of components that will not be subjected to harsh environments that would necessitate more permanent marking.

The minimum allowable height is .125 inches and the maximum allowable height is .750 inches.

The Following Marking Methods are approved for painted articles.

6.6.1 Permanent Ink Stamp

6.6.2 Permanent Ink Stencil

6.6.3 Adhesive Labels

7.0 Referenced Documents:

None