

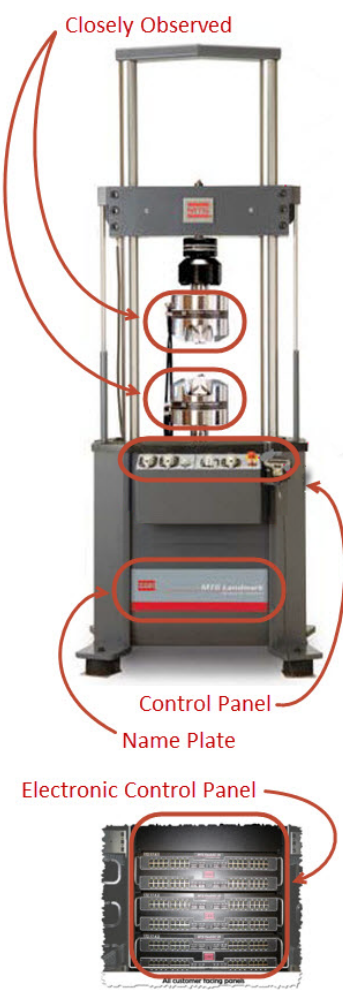


MTS-Test Workmanship Standards

Workmanship Standards Number: 05-02

Rev: A

- 1.1 Name: Identification Methods for Finished Surface Classes
- 1.2 Workmanship Standards Category: Protective Finishes
- 1.3 Purpose/Description (why/when/how): Provide identification methods used to distinguish requirements for surfaces with protective finishes. The standard is intended to be used in conjunction with other Standards in the Protective Finishes category. Examples being Paint, Plating, etc.
- 1.4 Illustration: Illustrations on the left add context and clarity to the notes identified on the right. The illustrations are examples of product surfaces. The standard applies to all product and is not limited to the examples.

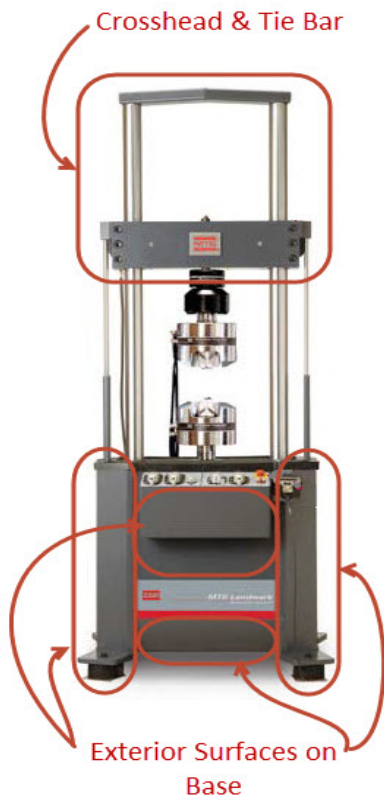
Identification Illustrations	Identification Notes
 <p style="color: red; text-align: center;">Closely observed Class 1</p>	<p>Class 1: Surfaces within this class are considered high appearance grade and require the highest grade of finish. Class 1 finishes include surfaces such as user control panels, electronic product panels and materials that incorporate user interface areas or surfaces closely observed by the user during routine operation of equipment.</p> <ul style="list-style-type: none"> ○ General Qualification Rules With the surface oriented perpendicular to the line of sight and from a distance of 18 inches under fluorescent lighting conditions, a Class 1 finish shall exhibit no inconsistencies or discontinuities. The finish shall appear uniform and have no visible flaws or defects of surface, texture, color, or gloss. ○ Specific Qualification Rules Fabrication/machining process marks, flaking, scratches, abrasions, smears, over spray, orange peel, runs or sags, dirt particles, fisheyes and streaks are not acceptable with Class 1 finishes.



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Class 2: Surfaces within this class are subject to casual observation during routine operation of equipment. These include: exterior surfaces on load frame bases and crossheads, console side panels and rear doors, etc. This finish is the most common class for materials that comprise exterior appearance surfaces.

If a finish class is NOT specified, it will default to a Class 2.

○ General Qualification Rules

With the surface oriented perpendicular to the line of sight and from a distance of 3 feet under fluorescent lighting conditions, a Class 2 finish shall exhibit no more than 2 imperfections, no larger than .030 inches in diameter within any given 12 inch by 12 inch square area, except as allowed by the following specific qualification rules. Inconsistencies or discontinuities of texture, color, or gloss are not allowed.

○ Specific Qualification Rules

- Minor damage (both substrate and finish): Scratches, abrasions, smears, etc. are not acceptable with Class 2 finishes.
- Overspray/Dryspray are not acceptable with Class 2 finishes.
- Fisheyes are not acceptable with Class 2 finishes.
- Texture discontinuities such as streaks are not acceptable with Class 2 finishes.
- Orange peeling, runs or sags, and fabrication or machining process marks, are acceptable with Class 2 finishes provided that the condition cannot be detected with the surface perpendicular to the line of sight and from a distance of 3 feet under fluorescent lighting conditions.
- Small isolated dirt particles that are fully encapsulated and firmly adherent, and do not compromise finish integrity or screen/printing or graphics application are acceptable provided that the condition cannot be detected with the surface perpendicular to the line of sight and from a distance of 3 feet under fluorescent lighting conditions.



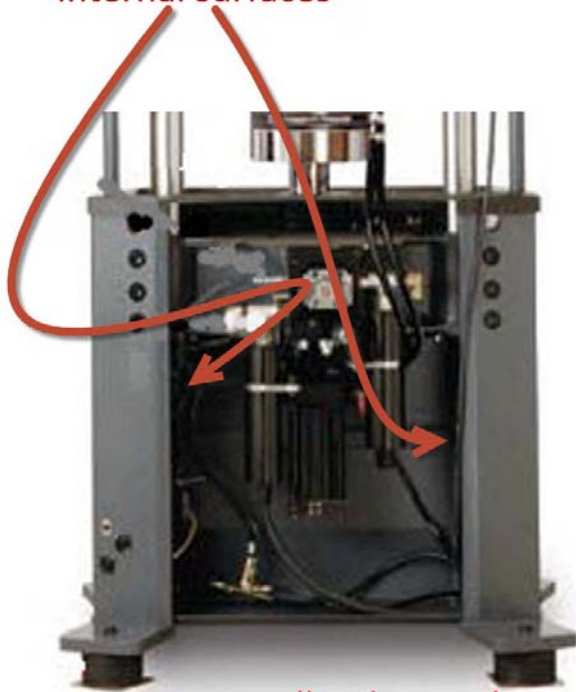
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Internal surfaces



Occasionally Observed
or Not Seen

Class 3

Class 3: Surfaces within this class are typically internal surfaces that are not seen, surfaces viewed from long distances, or only occasionally observed by the customer or service technician for routine maintenance. Application of this finish class include inside surfaces of materials such as bases, reservoirs, large weldments and castings.

○ General Qualification Rules

All Class 3 finish shall exhibit no inconsistencies or discontinuities of such a nature that the protective integrity of the finish is broken, except as allowed by the following specific qualification rules.

○ Specific Qualification Rules

- Minor damage (both substrate and finish): Minor scratches, abrasions, smears, etc. are acceptable providing that no sharp burrs are raised in the substrate metal and coverage is complete so that no bare metal is exposed.
- Overspray/Dryspray is allowed provided it is firmly adherent and does not interfere with assembly operations, production function, product safety or graphics applications.
- Fisheyes that do not expose bare metal are allowed with Class 3 finishes.
- Orange peeling, runs or sags, are acceptable provided it does not interfere with assembly operations, production function, product safety or graphics applications.
- Small dirt particles that are fully encapsulated and firmly adherent, that do not compromise finish integrity, that do not interfere with assembly operations, production function, product safety or graphics applications are acceptable in Class 3.
- Texture discontinuities such as streaks are acceptable with Class 3 finishes.



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2 REVISION HISTORY & APPROVAL

REVISION HISTORY			
Rev	Description of Change	Author	Effective Date
A	Initial release	D. Winslow	4/15/2013

APPROVAL OF CURRENT REVISION		
Name / Function	Signature	Date
Stephen Jordheim / Workmanship Standards Process Owner	(approval on file)	
Alan Rivers / Workmanship Standard Co- pilot	(approval on file)	