

HANDLING CLASS CODES

DOC 09-02

(Rev. #10, Ref. [QP 10.01](#), [QP 09.03](#), & [QP 15.01](#))

In order to assure proper part handling, the following handling procedures are to be used when identified on Purchase Orders and on Manufacturing Route/Work Instructions at each operation.

The following are the descriptions of the classes and the handling required. Any handling deviation to a purchase contract must be negotiated by the sub-contractor on a case by case basis with the cognizant [G.W. Lisk](#) Buyer and authorized by a Change Order or by a Sourced Material Waiver. Changes to routed handling classes are not permitted without approval from the Routing Department:

Handling Class	Standard Parts and Assemblies
A	<p>NO PART TO PART CONTACT Rack with dividers. Separators required between layers. OR Packaged in individual containers, compartments (molded plastic trays or foam inserts) or sealed bags (any method of sealing bags is permitted). Individual containers or bags can be additionally packaged by any means (palletized, bulk packaged, etc.) as long as critical finishes, tight tolerances, straightness or part function, are not affected. Foam inserts must be suitably packaged to prevent damage or contact with other parts. Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
AM	<p>Class “A” Modified – Limited Part on Part Contact Permitted: Parts are to be placed in a “Fiberglass Basket” containing a “Screen” at bottom and “Plastic Dividers”. Each cell may contain more than one part depending on size, configuration, etc. With cells containing more than one part, parts must fit freely, not tightly. Goods received from outside sources should not exceed 40 lbs. per shipping container. (For more details, see photographs below.)</p>
B	<p>PART TO PART CONTACT PERMITTED Parts or assemblies are to be placed in containers in layers. Separators between layers are required for Outside goods or services, optional for in-house handling. Partial layers are to be packaged to prevent movement during shipping. Special features may be additionally protected in lieu of Class A handling. Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
C	<p>BULK HANDLING No racking, stacking or dividers required. Parts are to be packaged to prevent damage. Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
N	<p>NESTED OR BUNDLED Parts may be nested (stacked within each other) or bundled (in contact with each other, no layers or separators) to reduce packaging and prevent handling damage.</p>

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Electrostatic-sensitive Parts and Assemblies (ESD)	
<p>Note: Parts under classes "D", "E", & "F" are to be stored in electrostatic-protective containers. Parts are to be handled exclusively by personnel wearing a grounded wrist strap designed for electrostatic control. Wrist straps must be tested each time they are put on to ensure safety to operators as well as parts.</p>	
D	<p>NO PART TO PART CONTACT</p> <p>Rack with ESD dividers. Separators made from ESD grade of materials are required between layers.</p> <p style="text-align: center;">OR</p> <p>Packaged in individual ESD containers, compartments (ESD plastic holders or ESD foam inserts) or closed ESD bags.</p> <p>Individual containers or bags can be additionally packaged by any means (palletized, bulk packaged, etc.) as long as critical finishes, tight tolerances, straightness or part function is not affected. Foam inserts must be suitably packaged to prevent damage or contact with other parts.</p> <p>Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
E	<p>PART TO PART CONTACT PERMITTED</p> <p>Parts or assemblies are to be placed in containers in layers. Separators between layers are required for Outside goods or services, optional for in-house handling.</p> <p>Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
F	<p>BULK HANDLING</p> <p>No racking, stacking or dividers required. Parts are to be packaged to prevent damage.</p> <p>Goods received from outside sources should not exceed 40 lbs. per shipping container.</p>
Cleanliness	
Class + suffix below	<p>No suffix to the above Handling Class indicates that published cleanliness standards do not exist and that no special precautions are required beyond good housekeeping practices.</p>
1	<p>Handling as above plus additional enclosure in a clean plastic bag or plastic container with a cover to protect from external debris</p>
2	<p>Handling as above plus additional enclosure in a clean VCI bag to protect from external debris and provide rust prevention.</p>
3	

Classes A and D: Used for parts with critical surface finishes, tight dimensional tolerances, straightness requirements, critical part functions, and to prevent trapping of solvents and oils. Size and weight are also considered in the selection of this level of handling. Classes A and D are the most expensive classes of handling.

Classes B and E: Used for part orientation during cleaning, to prevent trapping of solvents and oils and whenever random part orientation could cause damage to parts. Part size and weight are also considered in the selection of this level of handling.

Classes C and F: Used when parts have less critical finishes and dimensions and when random part orientation is required. Classes C and F are the least expensive classes of handling but are the methods most likely to cause part damage.

Class N: Used when parts have less critical finish and dimensions and when part orientation is required to prevent bending or movement primarily during shipping.

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FOR DETERMINING HANDLING CONTAINER TYPE

PARAMETER	CRITERIA FOR SELECTION
Weight	Able to contain a minimum of 50 lbs. for an extended amount of time
Chemical Resistance	Retains usability after repeated contact with all substances currently in use.
Heat	Container not deformed after exposure to high temperatures while filled to capacity.
Drainage	Allows complete cleaning of contents without retention of excess liquids and/or particulate.
Coverage	Optional lid available with containers.
Compatibility	<p><u>Nesting</u>: Provides safe stacking and allows the bottom of one container to nest within the top of another.</p> <p><u>Dividers</u>: Able to accommodate current divider configurations.</p> <p><u>Shelving</u>: Container sized as needed to accommodate all in-use shelving.</p> <p><u>Current Containers</u>: New container able to stack/nest with containers currently in use.</p>

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- A. **Royal Blue Basket** for cleanliness program **ONLY!!!** Basket cannot be vapor degreased.
- B. Greyish Blue Fiberglass Basket for general hardware that can be degreased. Well suited for **heavy parts!!!!**
- C. **Red Basket** or Grey Baskets shown below are for light duty general hardware that can be degreased.

Fiberglass Basket for general hardware that can be degreased. Well suited for **heavy parts !!!**



Blue basket for **cleanliness program ONLY!!!**
Basket **cannot** be vapor degreased.

Baskets for light duty general hardware that can be degreased.



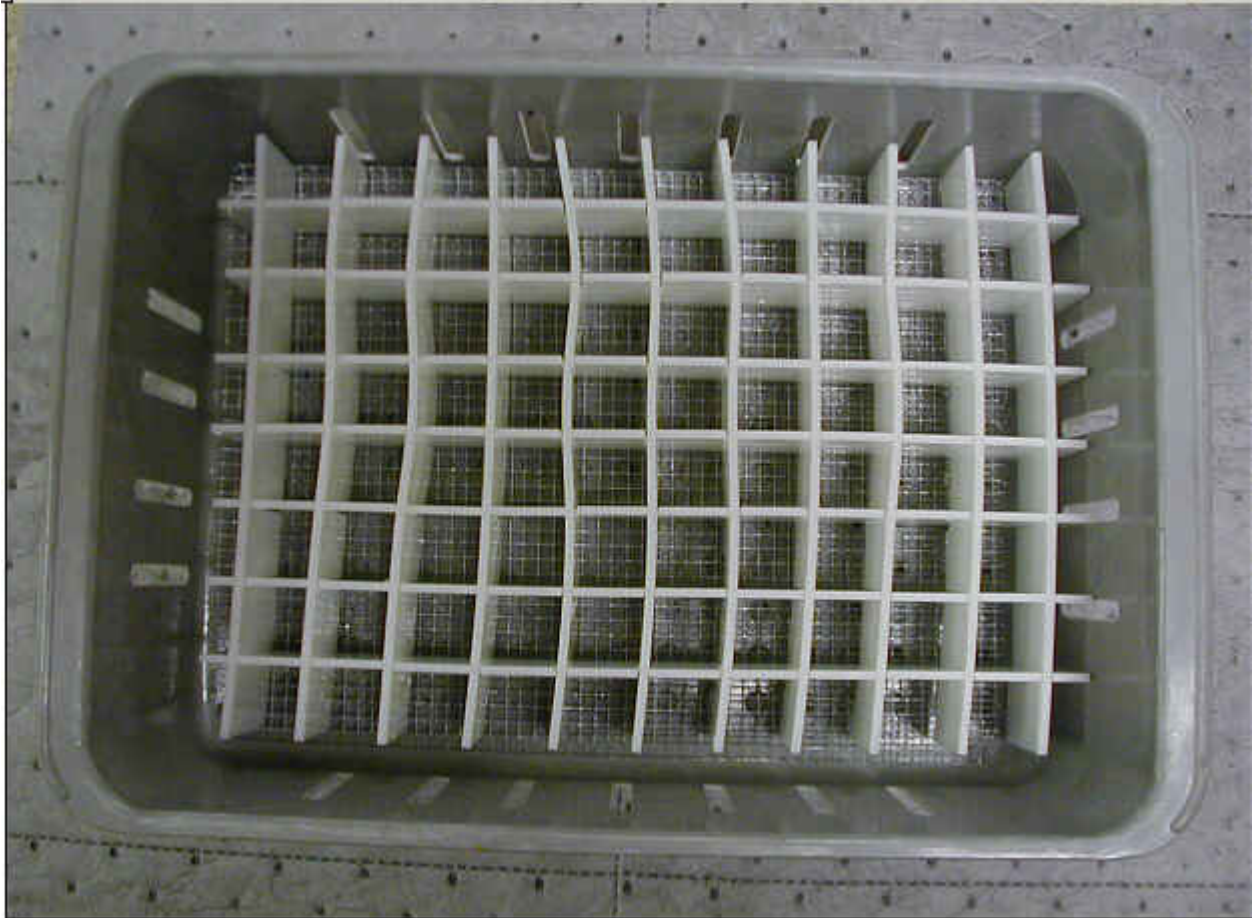
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Handling Class “AM” Photographs

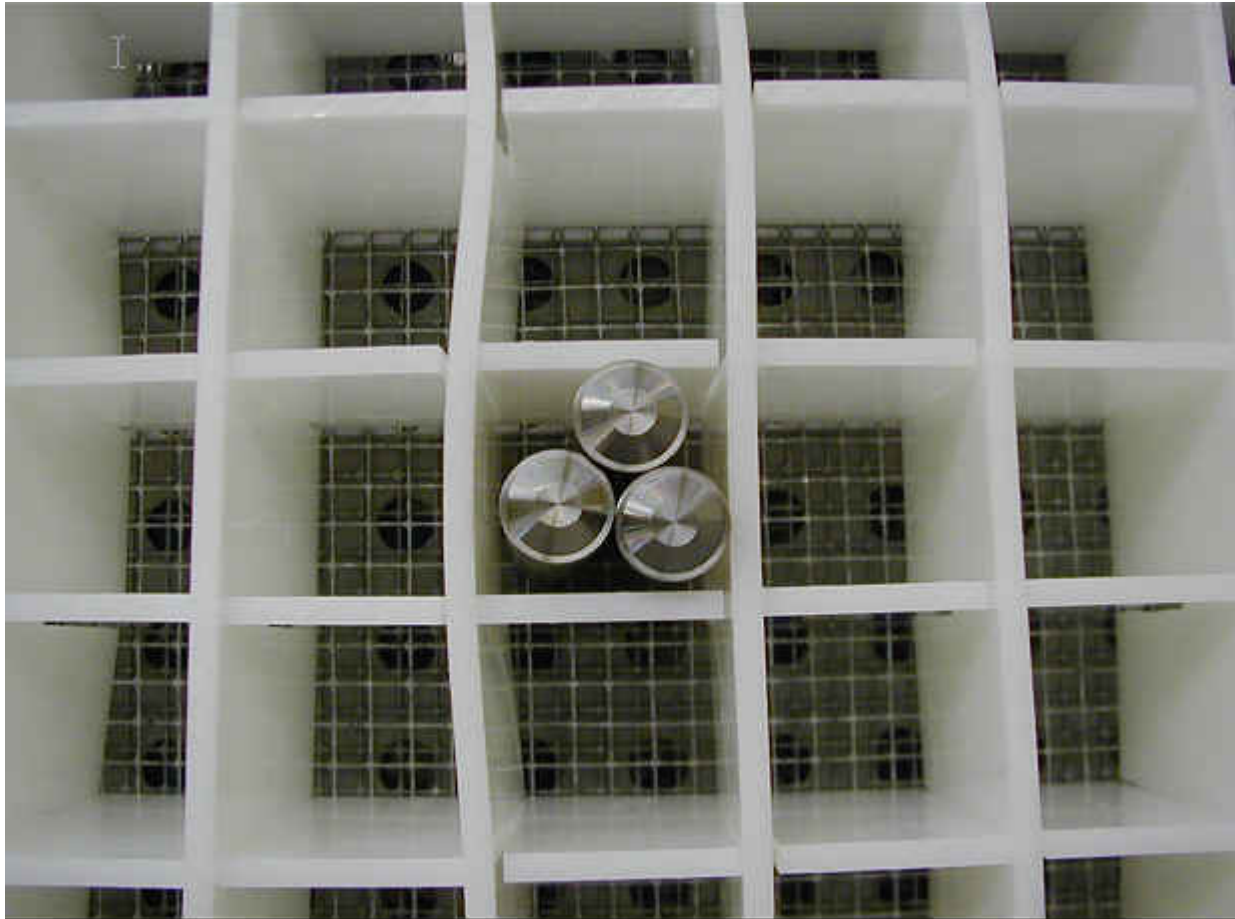
Do not use the outside rows of plastic dividers. Parts will move excessively causing damage and will not be cleaned effectively.



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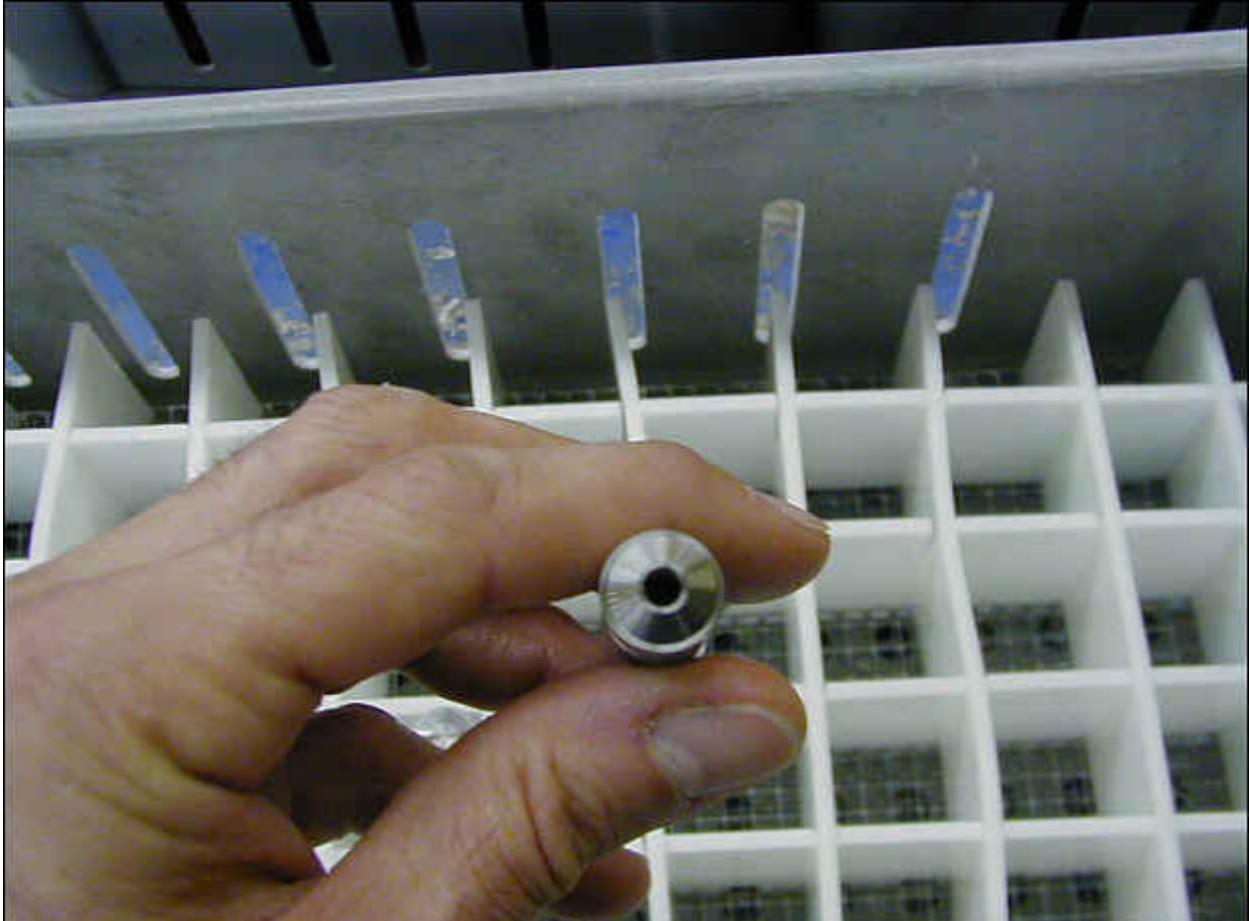


Each cell may contain more than one part depending on size, configuration, etc. The divider cavity should be filled to capacity **without forcing** (minimize part to part banging depending on size). The exterior surface finish will be damaged if parts are forced into cells.

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Parts with “**Blind Bore**” features should preferably be placed with the blind bore facing horizontally. If this arrangement is not practical, an acceptable alternative would be with the blind bore facing downward. These methods will aid in the evacuation of cleaning fluids and debris.

A cleaning process with “**Oscillation**” should also be used to improve movement of cleaning fluids and to facilitate contaminate removal.

Printed copies of this procedure are considered UNCONTROLLED. Therefore, when referring to a printed copy for instruction, know that the revision of that printed copy may not be current and must be verified against the CONTROLLED version (located on the Company Intranet) prior to use.