Rev 3 update - section 4 added 13/09/2023

General Overview

This document should be referred to as a guide during visual inspection of all Gaskets supplied to Swagelok in conjunction with any JW or customer stated

This Standard Inspection Process Guide covers the below visual inspection steps.

- Smooth surface finish
- Crease free material
- Pit free material
- Inclusion free material
- Burr free finished items

Visual inspection of material should be carried out by all relevant production areas i.e. Extrusion, Custom Moulding and Cut Gaskets.

Production paperwork should be stamped to show that this guide has been followed and that visual inspection of the material/item has passed.

Material(s) or Item(s) should NOT be transacted to the next internal customer/department if ANY of the below have been identified.

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1. Surface finish

Item(s) should be inspected under an inspection lamp to look for surface inconsistencies such as ripples or bubbles, the items should be moved under the inspection lamp so that the surface can be checked under different lighting angles.

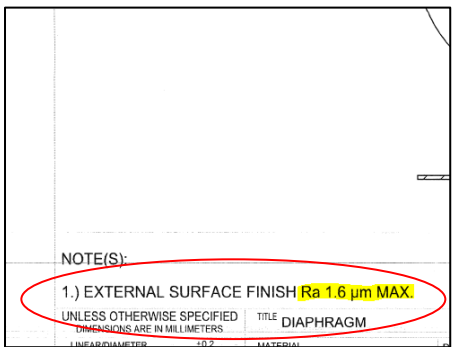
The item(s) surface should be checked using touch so that any inconsistencies, not shown visually can be detected by this method.

The surface should be smooth following this inspection step.

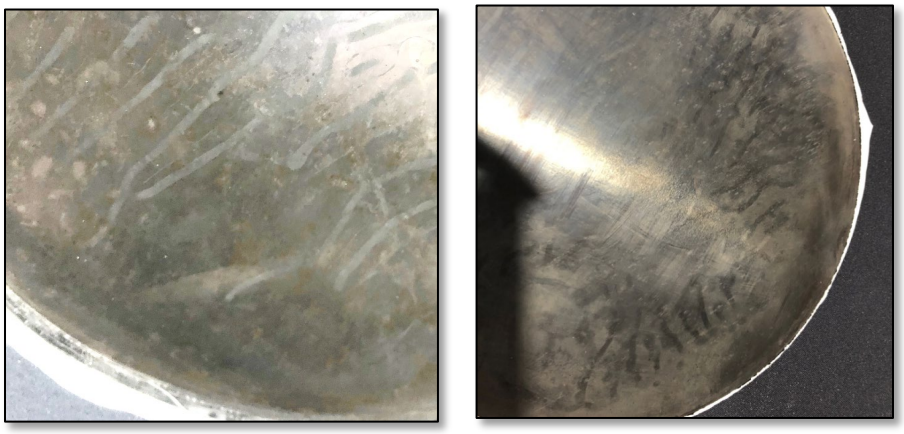
If the surface is not smooth following this step visual inspection has failed and this should be raised with a team leader or a member of the Quality team for advice and further inspection.

Extra attention should be applied to the customer drawing, The drawing should be checked for a specific surface finish measurement. i.e Ra 1.6um Max as pictured below. (This could appear in the drawing notes section)

If a specific surface measurement is required on the drawing, Technical should be consulted and the surface should be measured using the surface finish measuring device, the surface measurement should be recorded on the DJ to show that this has been checked and the result.



Examples of poor surface finish

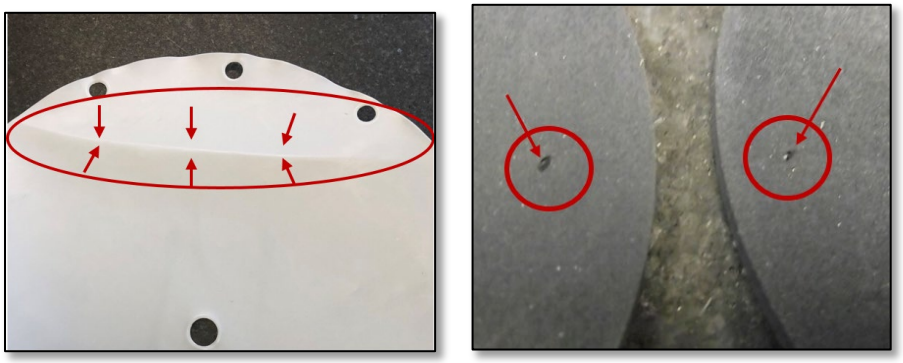


2. Creases, Pits and Inclusions

Material/Items should be free from creases, pits or inclusions the same inspection method should be used as above, the items should be moved under the inspection lamp so that the surface can be checked under different lighting angles.

A x2 magnification inspection lamp should be used to check for creases, pits and inclusions.

Example of rejected crease and pits found in material



If creases, pits or inclusions are found visual inspection has failed and this should be rejected and raised with a team leader or a member of the Quality team for advice or further inspection.

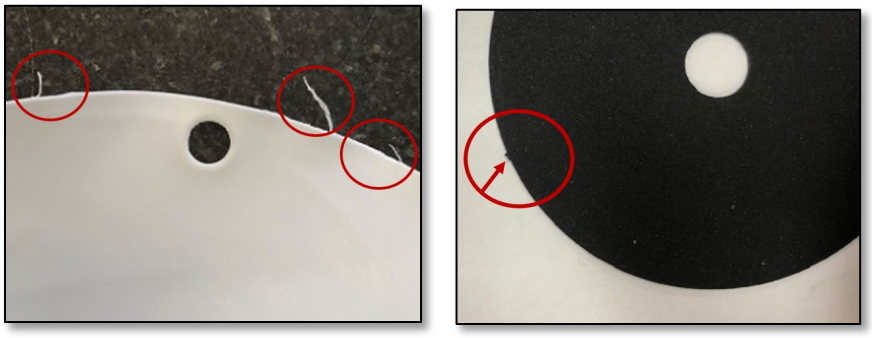
Pits or indentations found should be measured by the Quality team, Specifications should be checked for tolerance on permissible surface indentations and these documented.

3. Burrs

Material or items supplied need to be free from Burr. Burrs usually occur during the cutting process which can leave untidy, excess material around the cut lines.
This can include stop/start 'tabs' from stamp out, waterjet or knife cutting methods.

The OD, ID any PCD holes or any additional profiles should be checked for burrs using the standard JW visual inspection method.

Example of rejected Burrs following cutting and also a stop/start tab that was not removed.



Any burrs found on the finished item(s) at inspection can be removed using a light finishing method such and emery paper or scotch bright. Following removal of burrs using the finishing method items should be re inspected to ensure all burrs have been removed.

4. Cleanliness

All Gaskets must be cleaned using workshop wipes and dried using white roll, in-line with SOP0223. All gaskets need to be free from any surface contamination and any visible marks prior to being packaged.

IF IN DOUBT ASK!

End