



Arlon Products Training- Product Defects
Created by Quality Dept. Dec 2019

CORE VALUES



QA VISION AND MISSION



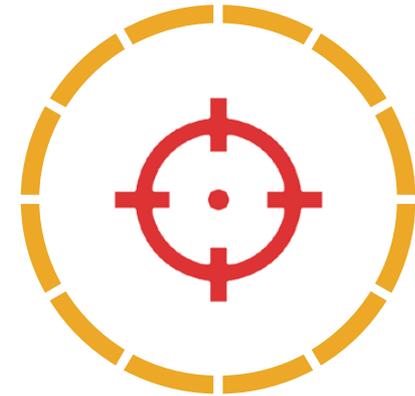
VISION

Zero Defect Quality.



MISSION

Gracefully manage quality control of products via proactive, responsive and collaborative efforts.



OBJECTIVE

Achieve \$4M EBIT, \$100M Revenue by end of CALENDAR year 2018

Arlon Quality Policy

Arlon is dedicated to meeting or exceeding the expectations of its customers through:

- Effective design of products
- Clear specifications
- Continuous product and process improvements

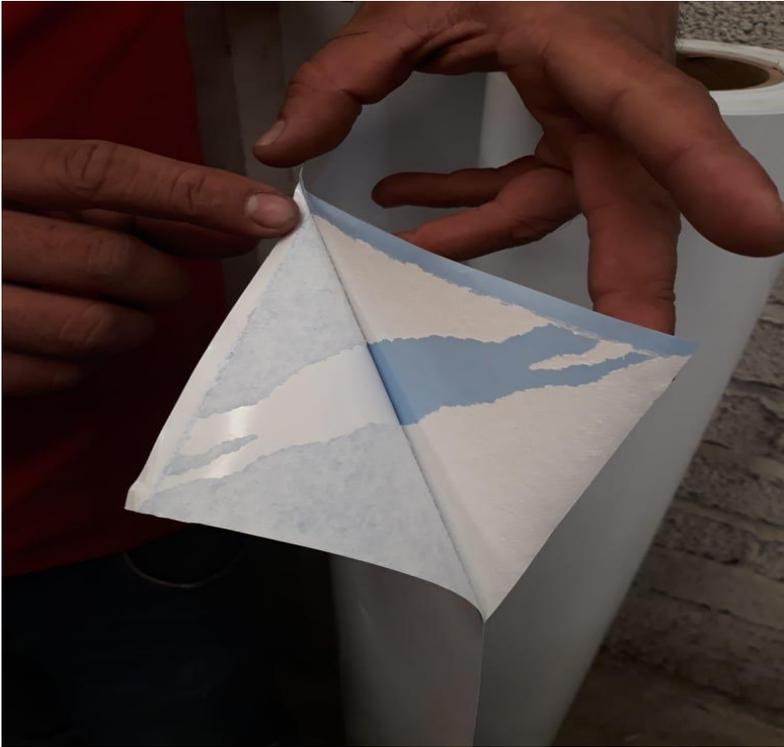


Product Defects QA Verification Process

Required: Product ID/Batch/Lot

- Verify expiration
- Retrieve QA Retain or sample from customer
- Perform physical properties, adhesive properties
- Other related tests i.e. printing, thermoforming
- Surface Defects – photos or actual samples needed
- Installation/Application issues – consult Tech Service.
- Warranty – other than published – consult PM

Product Defects



Liner Scuffing:

Root cause – silicone sensitivity to scratching during coating

Corrections – wider liner, on line coating set up stain test edge to edge

Product Defects

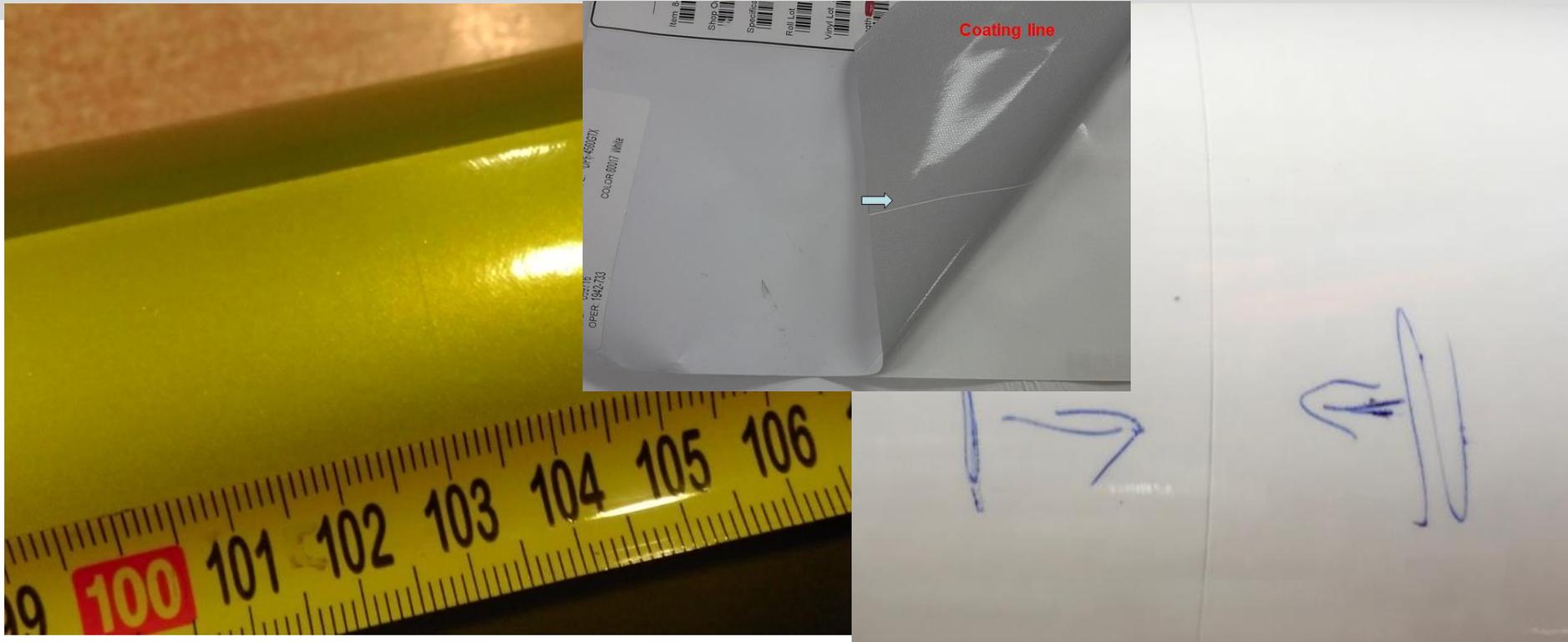


Wavy Edge Rolls/Telescope rolls:

Root cause – uneven tension and core slips during winding

Corrections – control winding tension, shaft modification to prevent core slips, new 736 produces even rolls

Product Defects



Lines/Sreaks:

Root cause:

Cast lines – particle caught under the knife, or cast roller not turning

Coat lines – particle caught under the knife, contamination in the adhesive, or coat roller not turning

Corrections:

Clean set up, effective filtration, inspect beginning of run for scratches, flag if not corrected then converting to remove defect

Product Defects



Contamination/Liner Spot:

Root cause:

Dirt – environment or contamination in the process

Liner spot - the spots are a byproduct of the paper making process and are inherent to paper liners

Corrections:

Dirt – more effective process area cleaning, set up

Liner spot – educate customer the “no impact to product quality and application” or change liner

Product Defects



Blister:

Root cause:

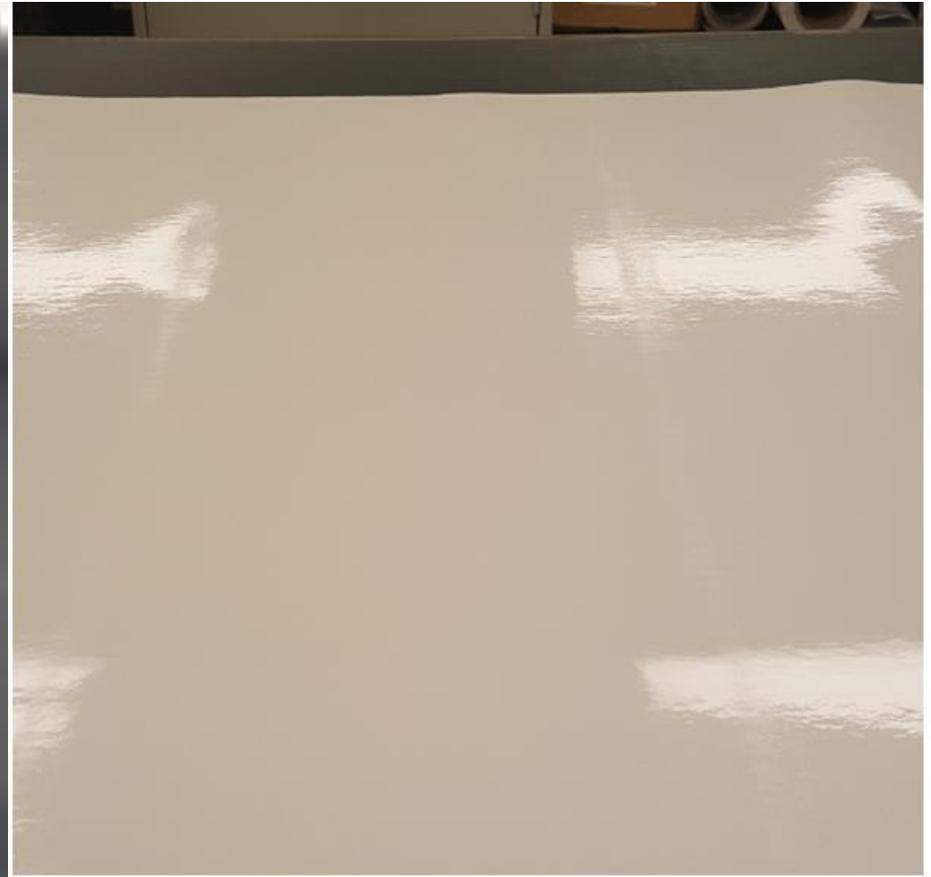
During printing – incorrect printer heater setting or uneven heating
Before printing – internal blister during FG rolls converting and was not taken out prior to shipment

Corrections:

At Customer – set printer heater setting properly- Mostly Latex printer related
At Arlon – corrected with auto stop and auto cooling fan since June 2018.

Arlon blister induced
Bubbles collapsed due to roll pressure

Product Defects

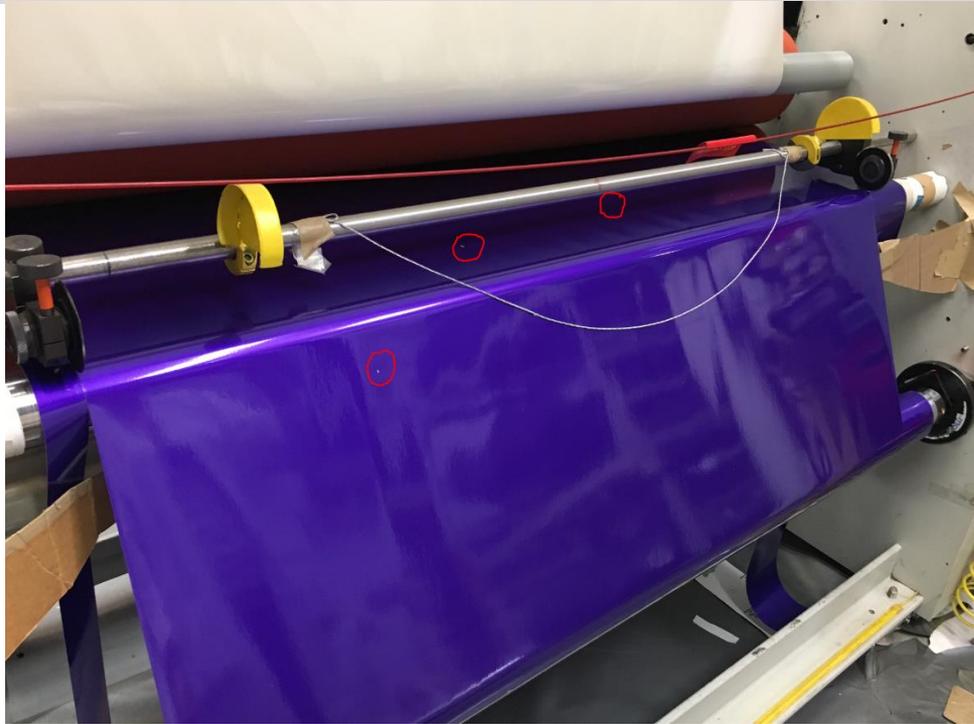


Box Corrugation/Box pressure marks

Root cause: Mixed/Uneven pressure load during storage

Corrections: Stronger packaging construction and/or utilize best practice on storage and shipment method

Product Defects- RM



Silicone Void (overlam liner):

Root cause: Base paper liner supplier roll processing contaminated

Corrections: RM supplier incoming base paper supply inspection optimized

Product Defects



DPF 8000 (Shrinkage):
Acceptable: less than 5MM

Root cause: Material age or excessive tension during coating lamination
Corrections: Optimize lamination tension and reject baggy or non layflat RM rolls

Product Defects



Banner Waffling:

Root cause – uneven tension during winding or inconsistent caliper during manufacturing

Corrections – control winding tension, improve thickness profile across the web

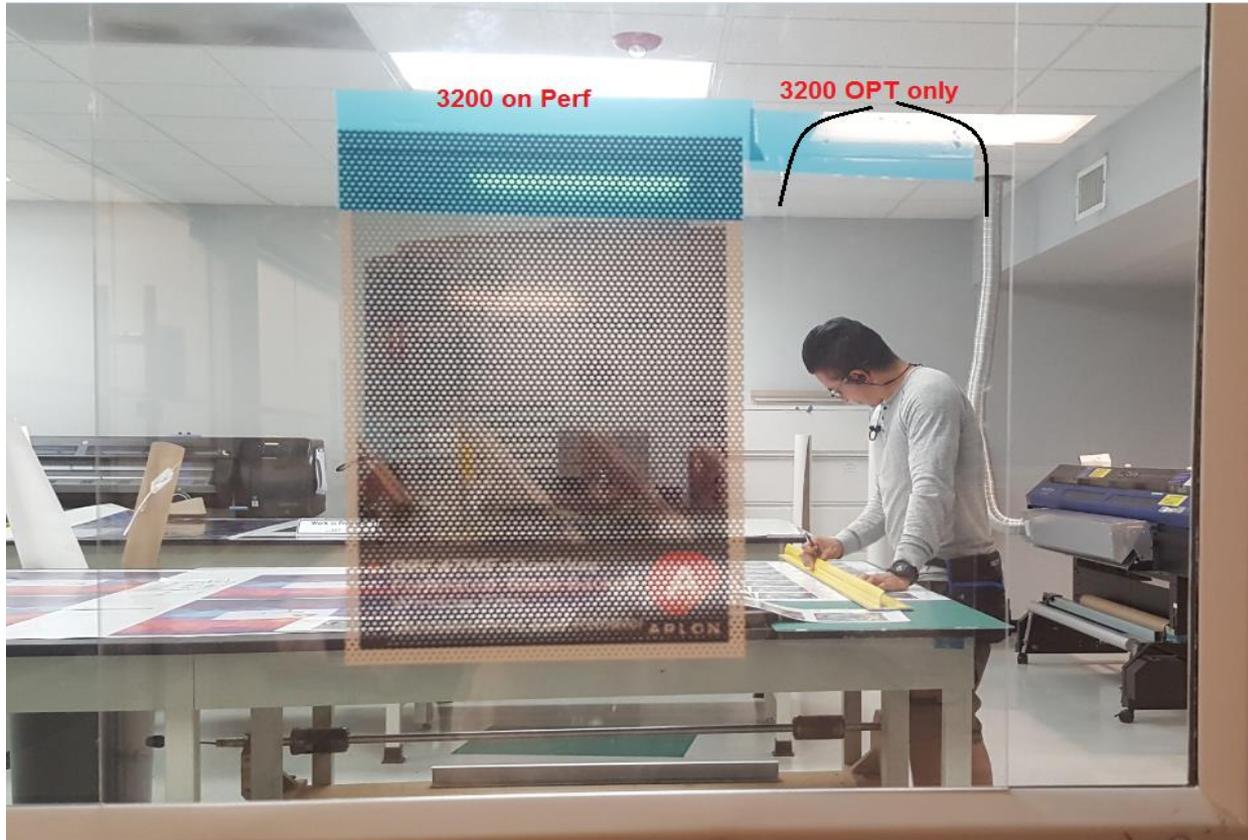
Product Defects



Overlam lifting from Print Media

Root cause: Incomplete outgassing process prior to overlam lamination
Corrections: Complete dry solvent ink prior to lamination

Product Defects



OPT 3200: Not Optically Clear enough

Root cause: Incorrect customer expectations

Corrections: OPT Clear must be applied to a smooth, flat, glass-like substrate for the clarity to be optimized. Any roughness or texture to the substrate will interfere with the clarity. Application to a perfed product cannot result in optimal clarity. This is because of the lens effect created by the holes in the perfed material. When laminating the 3200, the holes in the perf create a concavity or lens shape to the film. This concavity is what will slightly distort the image

Product Defects

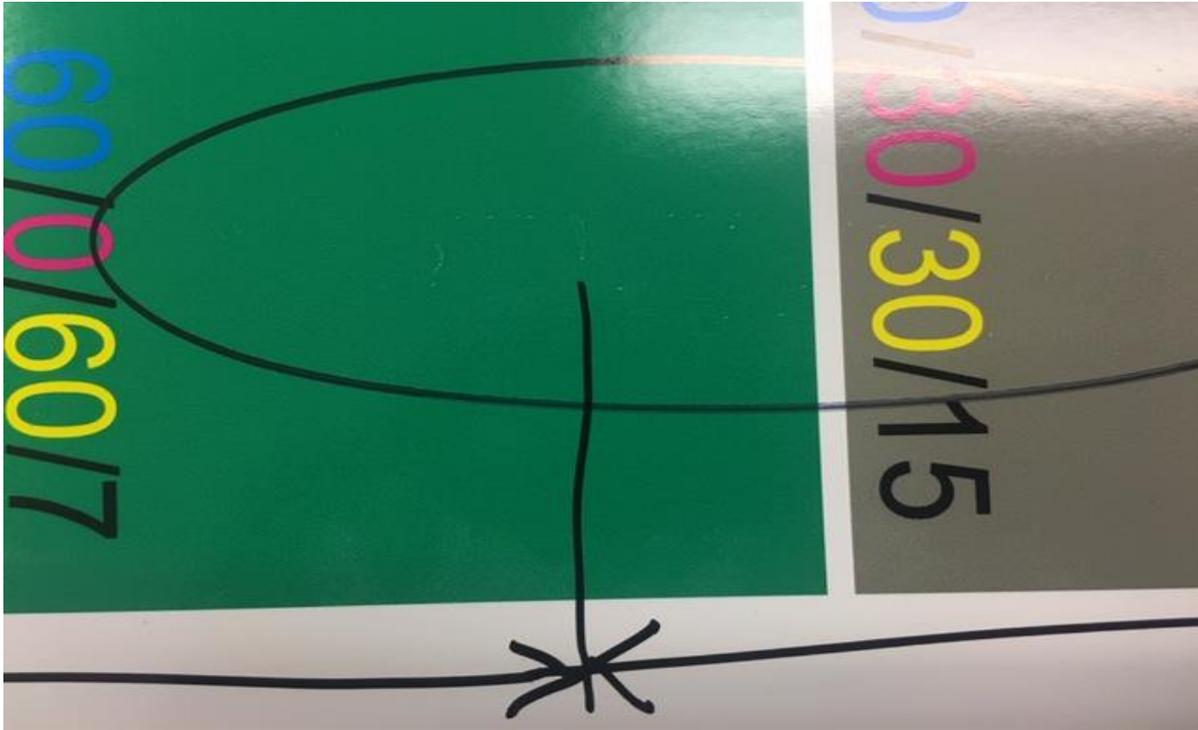


DPF 45WF: Liner Splitting

Root cause: Material age and weak liner construction

Corrections: Short shelf life and improve liner of buyout window film

Product Defects – Print Media



Print Contamination

Root cause;
Airborne environment contamination at customer or at Arlon

Correction:
Follow best practice and frequent cleaning during DPF run at converting.

Product Defects – Print Media

Customer Print Result 1 – Claim



Customer Print Result 2 – Claim



Arlon Print Evaluation Result - from Customer returned SLX roll

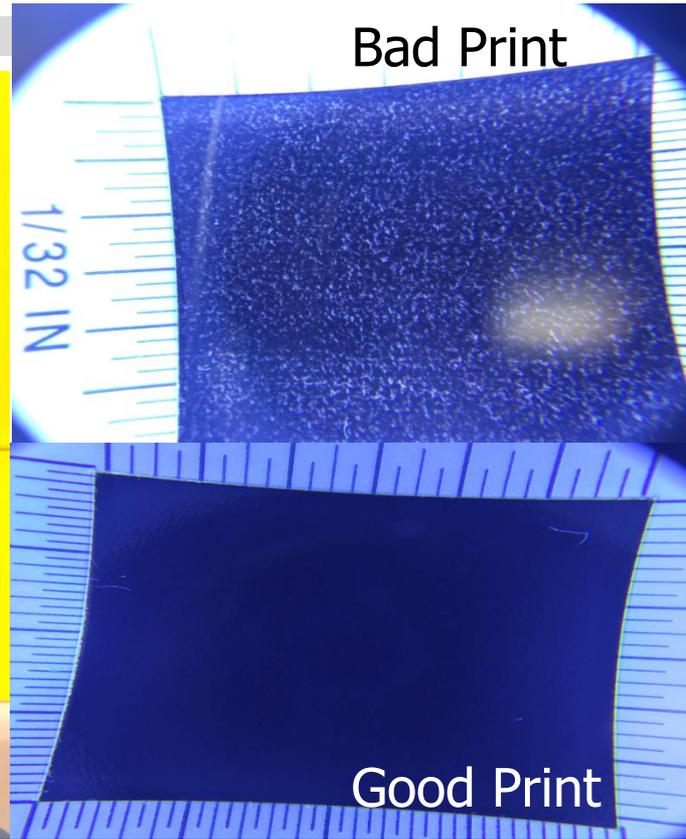


Uneven print/Streaks on printed graphics: Ink Starvation

Root cause: high volume of materials being printed by the printer and the print head for the light cyan and cyan cannot anymore sufficiently send and lay the volume of ink in the vinyl. It may be caused by lines or heads clogging and no more or less inks coming out from the nozzle.

Correction: optimize printer setting

Product Defects – Print Media



Ink Rejection:

Root cause:

Unstable print media due to migratory component in the film and process material.

Correction:

Product development media optimization.

Manage shelf life and aging inventory.



ARLON

Questions?