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ANALYSIS OF NR FLOWMARK DEFECT & TROUBLESHOOTING GUIDE

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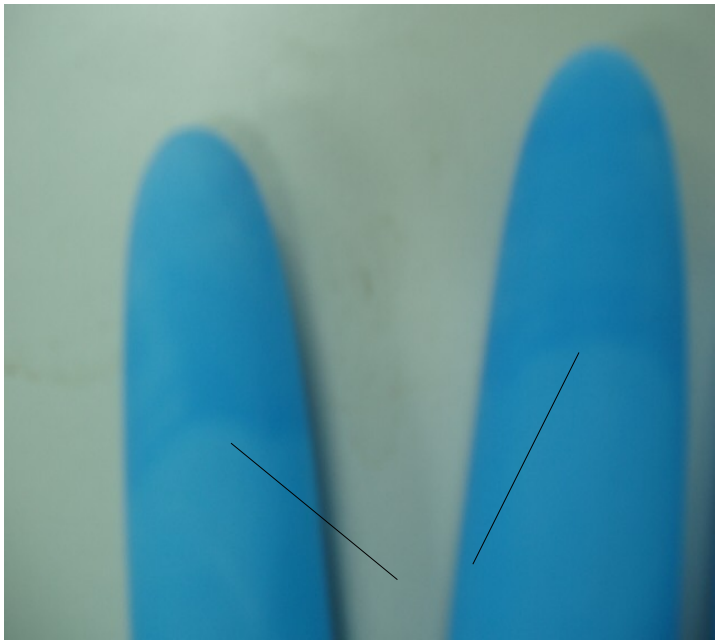
INTRODUCTION

Flowmark is a defect whereby can see the differences of colour with flow appearance on the gloves especially for colour gloves such as Blue colour with lower weight such as NW or TW products.

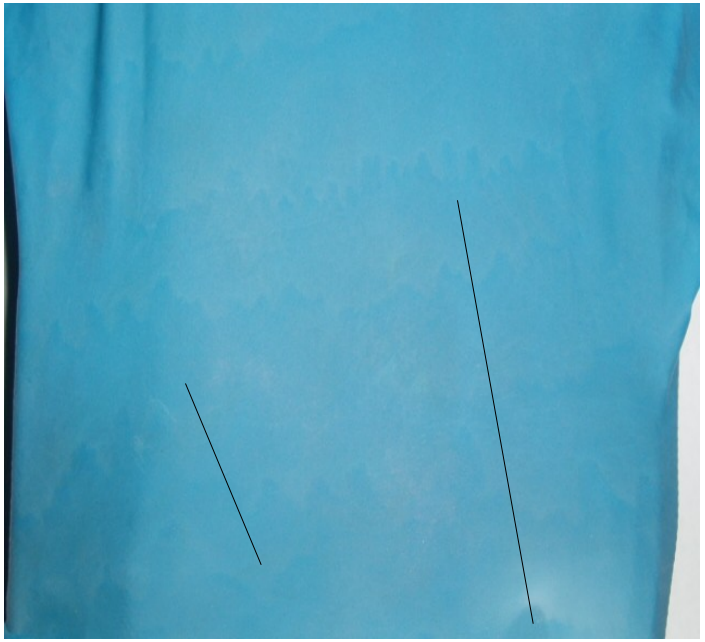
Area of Concern

At Fingertip Area



The ring marking as Coagulant circulating at the fingers area especially for XS and S size or more glazed formers.

At Cuff Area



The flow mark appearance and can be seen on the gloves when pressed and more obvious especially for lower weight gloves eg TW50. (Picture beside showed of the segments of flow).

PAST RECORDS OF THE FLOWMARK CUSTOMERS COMPLAINTS

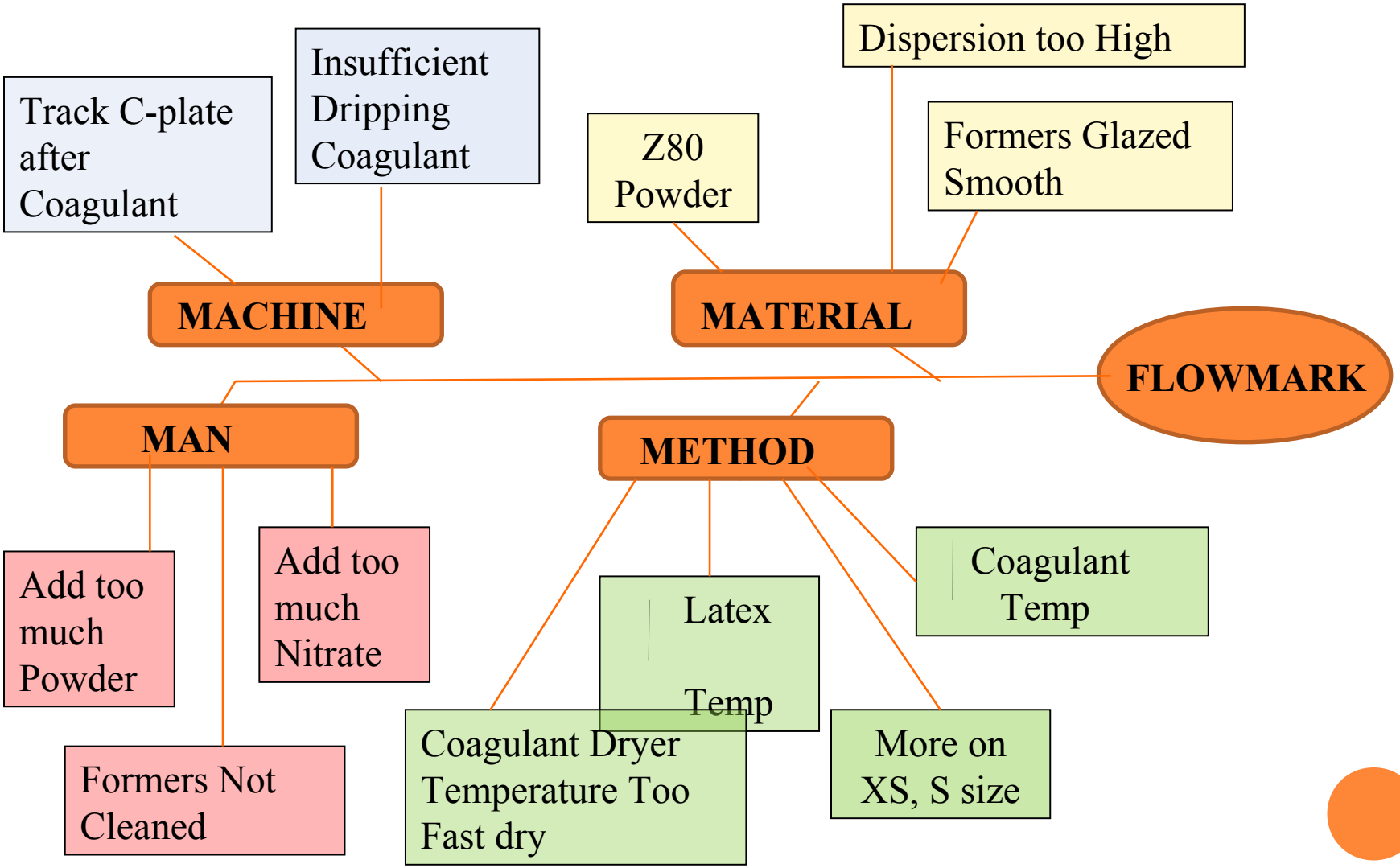
Year 2009 / Year 2010 / Year 2011 (until May 2011)

Table of Total Complaints in Group vs Complaints Received by F05

Year 2010	03-Aug	2GDC46	LPS-TW50	F13	Heavy flow mark due to high filler
	26-Nov	2POR01 003/10	NBPF-ENLW40	F2A	Serious flow mark found on the nitrile gloves
Year 2011	17-Mar	2BUR01	LPS-TW50	F05	Uneven colour and latex flowmark

Note: 2009 no Flowmark complaint & in 2010 (1 NR & 1 NBR)

ANALYSIS OF FLOWMARK DEFECT – FISH BONE DIAGRAM



DETAILS OF ANALYSIS – FISH BONE

MACHINE

Track C-plate turning whereby Coagulant accumulated at the Fingertip Area (details at next slide)

Fast turning horizontally of formers positioning after Coagulant dipping

MATERIAL

Z80 powder usage – higher dispersion & flow fast & not able to dry evenly with nitrate

Formers too glazed caused highly dispersion solution flows faster

METHOD

Coagulant temperature too high causes Coagulant dry faster and with flow segments on gloves. Same applies on latex

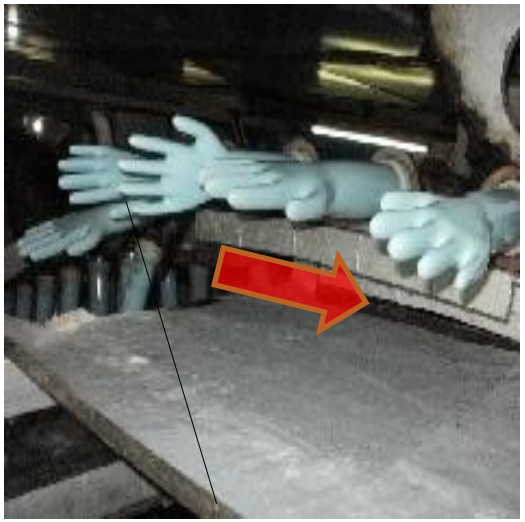
More on XS & S size as the surface smaller and Coagulant tend to circulation same area few rounds

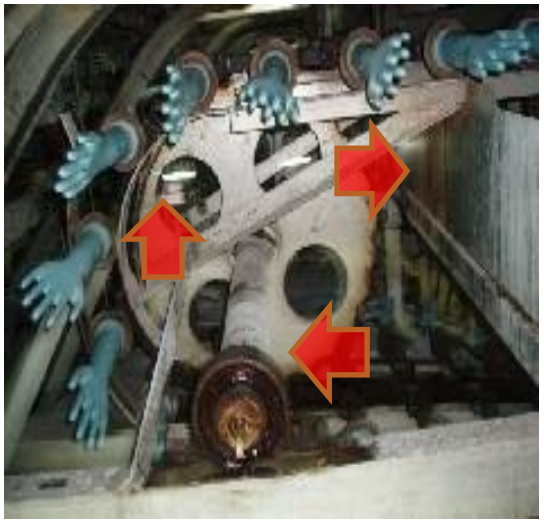
MAN

Too much Z80 powder added by workers causes latex coating un-even. If nitrate too much, causes nitrate not dried

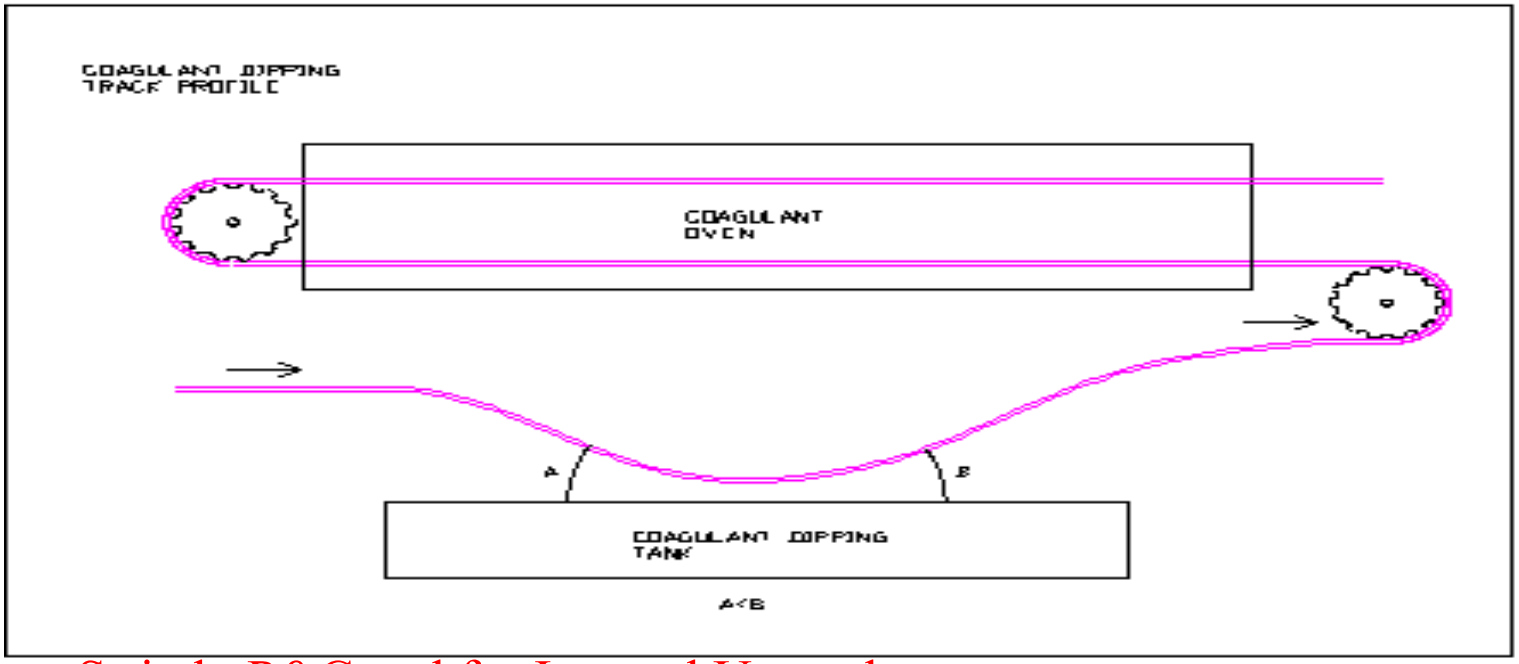
Not maintained on formers cleanliness causes Coagulant flow not even

PHOTOS REFERENCES





There is a ‘C’ plate immediately after formers withdrawal from Coagulant that causes the Coagulant accumulate at finger & less Coagulant flow downwards.



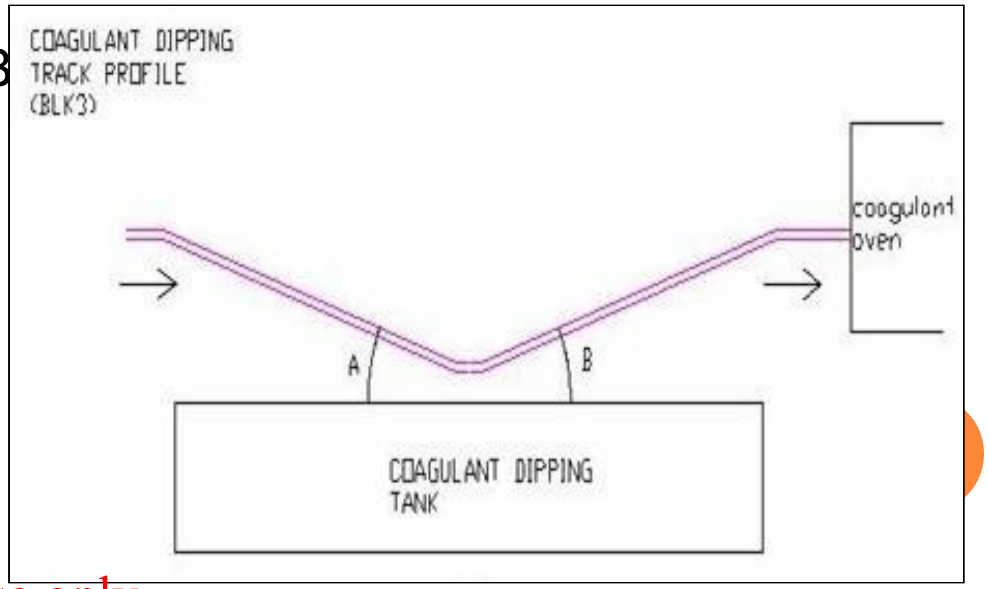
CORRECTIVE AND PREVENTIVE ACTIONS

- Ensure the horizontally of the formers before Coagulant dryer

  not focusing on the fingers area

- Design the line for future with better dripping & have better rotation before going into Coagulant dryer

- Dipping lower weight products type at single layer Coagulant



- Install digital temperature system for monitoring and consistency
- Maintain latex TSC at higher and lower formers temperature before latex dipping
- Ensure smaller size formers (XS, S) lines maintained lower Coagulant temperature, lower percentage of powder, lower formers temperature before latex dipping
- Replacing Z80 (GCC) powder with CaCO3 (PCC) type of powder
- To use the semi-worn out formers for Blue colour dipping
- Maintain the Coagulant solution temperature at 55 – 56'C

- For colour gloves (blue), increase the colour ratio during the higher RA
- Maintain consistent line speed at dipping line
- Minimize latex TSC adjustments at supply tanks
- Maintain higher swelling index (SI%) at supply and dipping tanks
- Ensure supply and dipping tanks for coagulant and latex with proper stirring and circulation
- Use of crystal type of Calcium Nitrate for Coagulant

- Monitor and control of Coagulant dryer temperature
- Ensure the cleaning process for formers cleaning is sufficient with acid % maintaining minimum above 0.2 %
- Ensure the brushes condition are cleaned and effective cleaning on the formers with proper water spray during brushing system

Thank You