Paint shops defects: How to avoid them (and why it matters)
Your customer won’t know or care you’ve improved your first time through rate.

**They care about your end product, not about your process.** It’s how the car looks in the showroom that counts. But you know the hard work behind the shine.
"The ‘look’ of a car can make all the difference to whether they might want to consider purchasing or cross it off their list."

Mike Farish, Editor, Automotive Paintshop Solution, Autumn 2013
BUT YOUR BOSS WILL SEE THE DIFFERENCE BEFORE THE CAR LEAVES THE PLANT

This little guide will help you reduce paint defects. By taking some simple actions, you can improve quality, ramp up productivity and drive down costs.
1.1% – Continuous Improvement drives down reject rate

In plants which have implemented continuous improvement processes on a large scale, re-work and reject rates average 1.1%. That’s significantly lower than the rate (3.1%) in firms without a continuous improvement policy.¹

Defects and re-work directly impact production output (First Time Through Rate) and cost. That means:

- Adjusting production schedules
- Loss of revenue due to over-processing
- Impact on production KPIs
- Increased overall cost of running the line
Based on 3% defects rate with average off-line cost of repair of £250, the cost of re-work to the industry rises to £481 million globally.²

On average, each manufacturer could spend >£76,000 in re-work costs for every 10,000 cars produced.

²Based on 63 million manufactured cars produced globally in 2012
>£76,000 re-work costs. For every 10,000 cars manufactured
THE BIGGEST CAUSE OF DEFECTS

Inexpensive rags and gloves are a false economy. They can create defects that are very expensive to fix because they are not designed for the process. That’s just one example of a problem caused by something as simple as industrial supplies.

Top 5 causes of paint shop defects

1. Dust (ambient dust or process generated dust such as sanding dust)
2. Human hair
3. Textile fibres (lint)
4. Contaminants (such as PVC sealant or silicone)
5. Human or process error
Here’s how the damage is caused

Defect Analysis

- PARTICLE INCLUSIONS
- WORK CONTACT
- OTHER
- BRANDING
- CRATER
- PAINT FILM

Close up of Particle Inclusions

- DUST
- TEXTILE FIBRE
- PVC PARTICLES
- HAIR

http://drishtikona.files.wordpress.com/2012/08/ch7.pdf
The right PPE reduced defects and total rework by 0.3%, saving an estimated £1,054 a day or £376,204 per year.³

Workers in the pre-paint area of a leading automotive manufacturing plant noticed lint deposits on body surfaces.

Since the lint was appearing during the pre-paint process, the defects it created were extremely expensive.

After they realized the lint was coming from the gloves they were wearing, they switched to lint free gloves and reduced rework by 0.3%.

³Leading Automotive OEM
Defects that occur in the paint shop are the most costly to fix. So the smart move is to eliminate as far as possible the cause of the defects, using fit-for-purpose PPE and industrial supplies.
Do you recognise these problems?

- PVC sealant contamination on car body from the sealant deck
- Paint defects related to incomplete removal of sanding dust from the process
- Paint defects related to lint coming from wiping materials used to prepare the surface for painting
- Lint generated from industrial supplies such as coveralls or even re-useable knitted coveralls

Then you’ll recognise that industrial supplies offer some quick wins.
“Almost every freshly painted surface on a vehicle attracts airborne contaminants; tiny particles of dust stick to the wet paint and, as it dries, become part of the surface. Despite their small size, such particles compromise final quality and may become the source of progressive degradation of the integrity of the paint finish, which can result in warranty claims.”

“Ditching the dirt at Ford” case study by Mike Farish, AMS
GOOD NEWS: 98% OF DEFECTS ARE AVOIDABLE

The right PPE and wipers can minimise defects.
Here are just two examples of how you can change your industrial supplies for the better:

- Choose low-lint wiping solutions – disposable and non-disposable – specifically designed for use in an automotive pre-paint environment
- Same goes for PPE. Gloves will often come into contact with the car body, so choose items that are fit for purpose – and that can be worn without discomfort to the worker or interference with the process

Two simple changes that can impact defect numbers and rework costs.
The wrong industrial supplies cause defects

If you could reduce the amount of those defects by 10%, how much could you save?

Using our figures from industry averages, if only 10% of defects were created by industrial supplies, then that would equal £7,600 for every 10,000 cars with an impact of £4.87 million to the industry.

**Action point**

Enter your own numbers and find out what percentage of industrial supplies may cause defects, and how much it impacts in terms of £.

**Try our online calculator**
Did you know?

A Waste & Hazard Walk can help you spot opportunities to reduce defects and make incremental impact on your Continuous Improvement activities
Get the Waste & Hazard Walk Workbook
Discover some of the savings a credible second pair of eyes can find in your paint shop.

Request a Waste and Hazard Walk from Kimberly-Clark Professional now