

# Surface Coatings for the Aerospace & Defence Industries

Now and the Next  
Five Years

**Graham Armstrong FIMF: Chairman Organic Group  
The Institute of Metal Finishing**



# A “Personal” View

# The Current Status

➤ Typically Chromate  
Containing

➤ Immersion

➤ CAA

➤ Brush

➤ Some Chrome Free

➤ SAA

➤ Silanes

➤ Sol-Gels

# Pre- Treatments



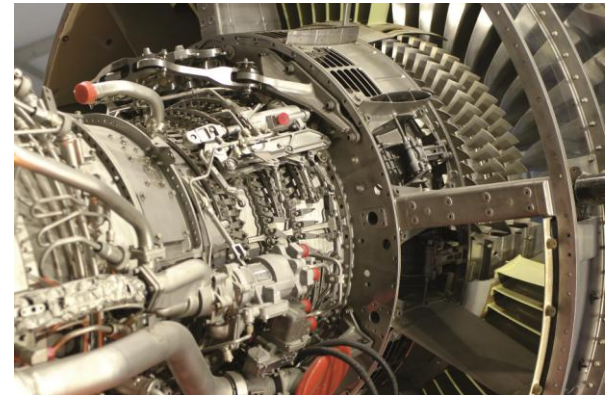
- Controlled by Specification  
(Rigid)
- Very “Traditional”
- Typically Solvent Based  
2 Component Primers  
& Finishes
- Chrome Containing
- ? Scope for Change

## Frame



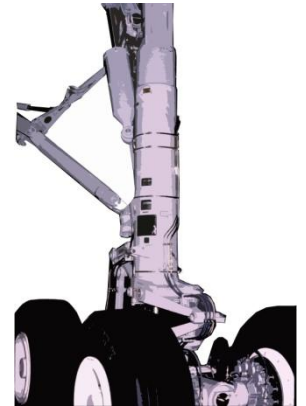
- Controlled by Specification (Rigid)
- Very “Traditional”
- Typically Solvent Based, both Cold Cure and Baking
- Chrome Containing
- ? Scope for Change

# Engines



- Controlled by Specification  
(Rigid)
- Very “Traditional”
- Typically Solvent  
Based 2 Component  
Primers & Finishes  
Cold Cure and/or Baking
- Chrome Containing
- ? Scope for Change

## Ancillaries



- Controlled by Specification  
(Rigid)
- Very “Traditional”
- Typically Solvent  
Based 2 Component  
Primers & Finishes  
Cold Cure and/or Baking
- Can be Chrome Containing
- ? Scope for Change

## Defence



# Changes Over the Next 5 Years

# Drivers for Change

- Increasing Technical Requirements
- Client Technical Specifications
- Legislative Issues
- Environmental Issues
- Product Availability
- Supplier Availability

## Drivers for Change

# Reasons to Stay the Same

- Technical Testing
- Resources
- The Re-Writing of Standards
- The Re-Writing of Drawings
  
- For Example: 4 Years for Approval of a European Equivalent to a US Import (Drop-in Product)

**Reasons to  
Stay the  
Same**

**But Change Will Happen**

- Increasing Technical Requirements
- Client Technical Specifications
- Legislative Issues
- Environmental Issues
- Product Availability
- Supplier Availability

## Drivers

- Greater Corrosion Resistance
- Higher Temperature Performance
- Longer Before Re-Paints
- Substrate Variability

# Increasing Technical Requirements

- Greater Corrosion Resistance
- Higher Temperature Performance
- Longer Before Re-Paints
- Substrate Variability

# Client Technical Specifications

➤ REACH

(Strontium Chromate)

Cr<sup>VI</sup>

Cr<sup>III</sup>

ETC

➤ GHS/CLP

# Legislative Issues

# MEK

## M.E.K. BS1940;1987

Approval No,BS1940;1987

Mixing Ratio,--

Thinners to use,--

Application Details,-- Drying/Curing,--

Clean Up,--

--



Batch No. 100

Batch No. 100.

Contents 25 Litre UN No. : 1193

Indestructible Print Ltd 19-25 Pantons Drive, Birmingham B11 3TA, UK,  
Tel: 0121 702 2485 Fax: 0121 778 4336 e-mail sales@indestructible.co.uk



Irritant



Extremely Flammable

**METHYL ETHYL KETONE (BUTANONE)** UN 1193  
EC No: 201-159-0 EC LABEL CLASS:3 PG II

**DANGER**

Highly flammable liquid and vapour.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

Keep away from heat/sparks/open flames/hot surfaces.  
- No smoking.  
Take precautionary measures against static discharge.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Store in a well-ventilated place. Keep container tightly closed.  
Repeated exposure may cause skin dryness or cracking.

Empty container may retain hazards - Maintain precautions  
205 LTR DRUMS RETURNABLE 6 / 25 / 205 Litre

**HAMMOND** HAMMOND CHEMICALS LTD  
CANAL STREET, BRIERLEY HILL  
WEST MIDLANDS, DY6 1JR  
Tel: 01384 480600

Code F

# TOLUENE

## Toluene

Approval No,--

Mixing Ratio,--

Thinners to use,--

Application Details,-- Drying/Curing,--

Clean Up,--

--



Batch No. 101

Batch No. 101.

Contents 25 Litre UN No. : 1294

Indestructible Print Ltd 19-25 Pantons Drive, Birmingham, D11 3TA, UK,  
Tel: 0121 702 2485 Fax: 0121 778 4336 e-mail sales@indestructible.co.uk



Harmful



Highly Flammable

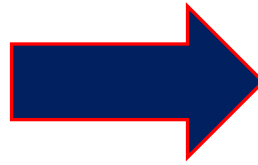
- Solvent Emissions
- Move to Water Based/Water Reducible

# Environmental Issues

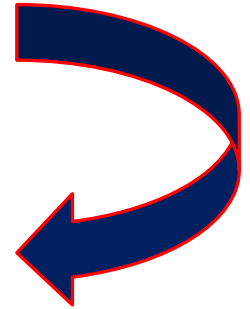
- Withdrawal of Chemicals
- Withdrawal of Mixtures
- Sustainability
- Company Closures

# **Product Availability /Supplier Availability**

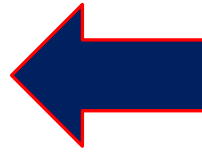
**Raw Material Mnfr**



**Coatings Mnfr**

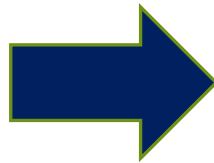


**Component Mnfr**

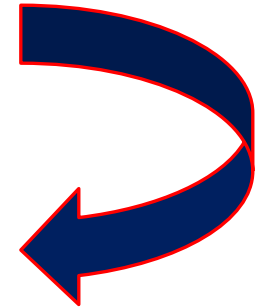


**Coatings Applicator**

**Main Part Mnfr**



**Airframe Mnfr**



**Passengers**



**Airlines**



# So, Where Will We Be in 2016?

# Will We (Still) Be Talking About:

REACH

Product Availability

Improved Performance

Requirements

etc

etc

**My Guess is “WE WILL”**

**BUT**

# What are Your Thoughts??



# OPEN FORUM SESSION

