



# Powder Coating Kitchenette

## Evaluation and Testing

Kevin Biller  
Nathan Biller



# Evaluation and Testing

- ASTM vs ISO
- Testing the Powder
- Testing the Coating
- Quality Control
- Performance Testing
- Environmental Exposure
  - Accelerated
  - Natural



# ASTM D3451-06

A list of test methods developed specifically  
for powder coatings by the Powder Coating  
Institute and ISO



Powder  
Coating  
Institute



International  
Organization for  
Standardization

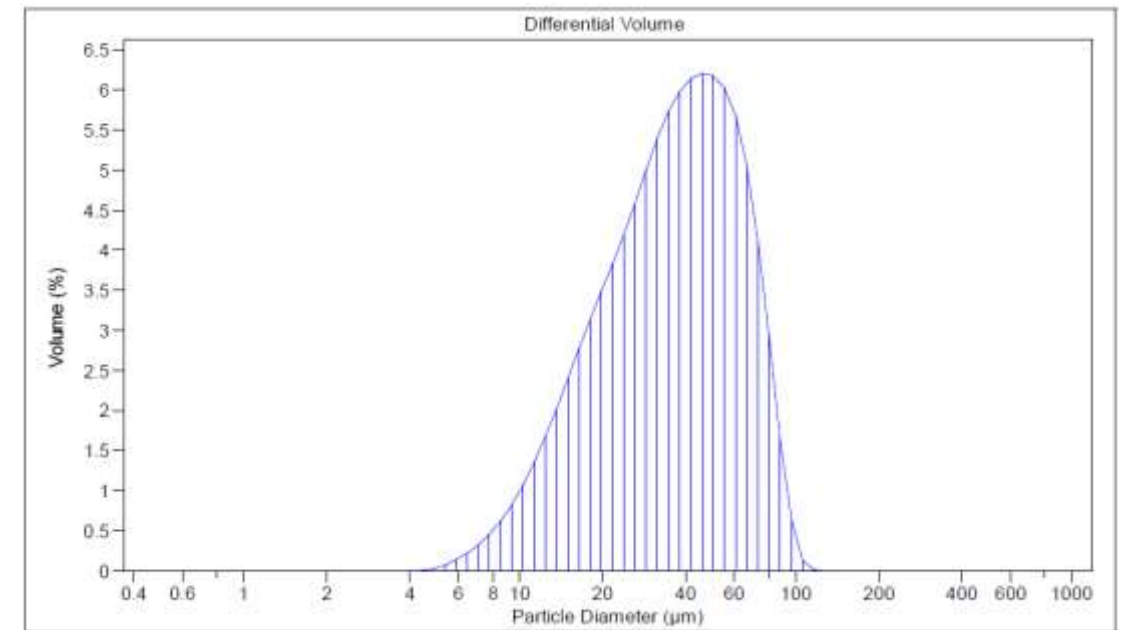
# Standards

- AAMA/FGIA
  - 2603
  - 2604
  - 2605
- Qualicoat
- Automotive
- Appliance
- FDA (food contact)
- Industry Specific



# Tests for Powder

- Particle size distribution
- Fluidity
- Storage stability
- Gel time
- Incline plate flow
- Transfer efficiency







# Appearance

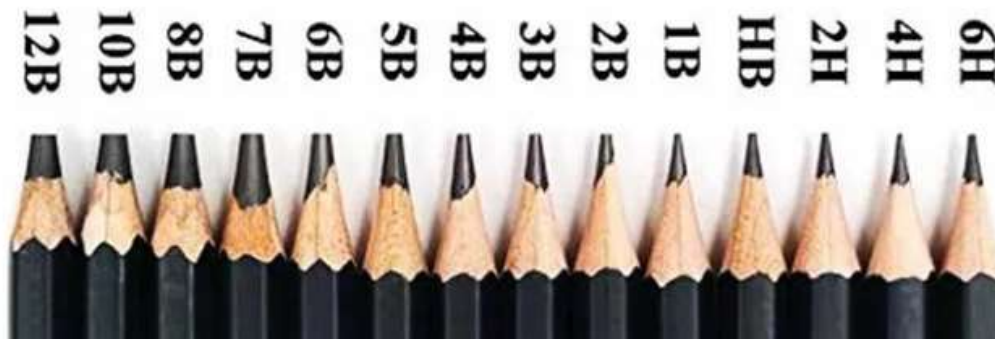
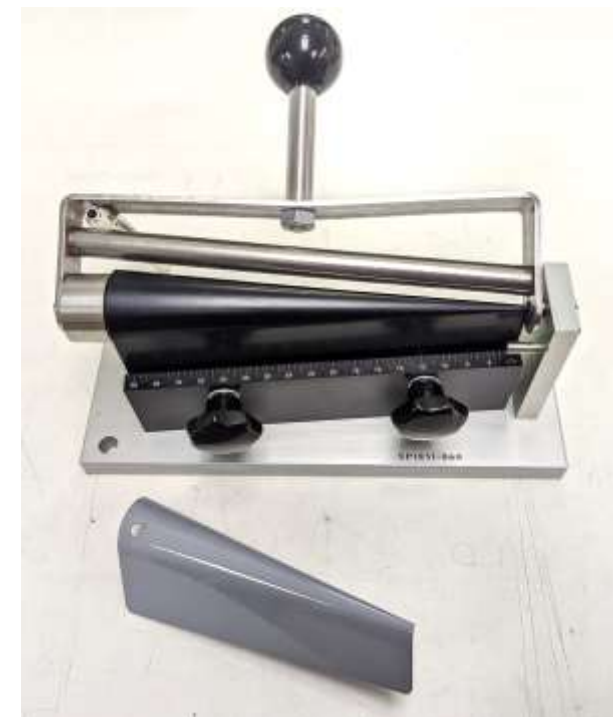
- Color
- Gloss
- Smoothness/Texture
- Opacity
- Compatibility
- Defect analysis

# Mechanical Properties

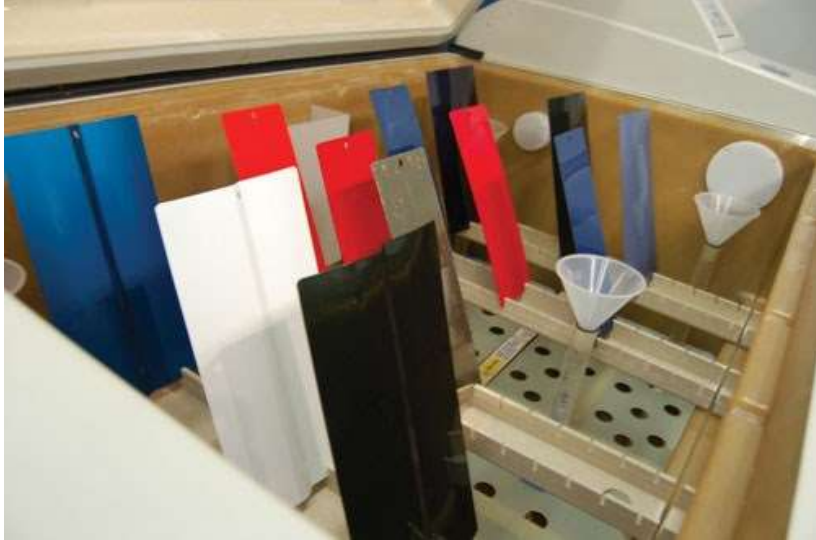
CLASSIFICATION OF ADHESION TEST RESULTS		
CLASSIFICATION	PERCENT AREA REMOVED	SURFACE OF CROSS-CUT AREA FROM WHICH FLAKING HAS OCCURRED FOR SIX PARALLEL CUTS AND ADHESION RANGE BY PERCENT
5B	0% None	
4B	Less than 5%	
3B	5 - 15%	
2B	15 - 35%	
1B	35 - 65%	
0B	Greater than 65%	

FIG. 1 Classification of Adhesion Test Results

- Film Thickness
- Adhesion
- Impact resistance
- Flexibility
- Hardness
- Abrasion resistance



# Accelerated Weathering



- QUV
- Xenon Arc
- Salt spray
- Cyclic corrosion
- Humidity
- Water immersion





# Outdoor Exposure

- South Florida
- Solar Concentration





# Questions?



Kevin Biller  
Nathan Biller

Raw  
Materials

Formulation

Processing

Application

Evaluation