Water Based Urethane Coating for Ceramic Substrates

ceraglaze SW1534

single component water based polyurethane

General Description

ceraglaze SW1534 is range of high performance Thermosetting Water Based Coatings designed to give a high gloss, chemical resistant finish to ceramic-based articles. **SW1534** has been developed to provide a single component, VOC compliant coating of outstanding flow and image clarity. The appearance of **SW1534** is maintained during processing due to the high degree of abrasion resistance inherent in the polymer system. **SW1534** is particularly useful when "cold end treatment" is present, providing improved adhesion to the substrate when compared to **SW1477**.

Applications

ceraglaze SW1534 has been developed to overcome issues of adhesion when "cold end" treatment is applied to the ceramic substrate. This makes it particularly suitable for use on wine and spirit bottles where VOC limit compliance is paramount.

Key Properties

- Adhesion to "cold end" treatment
- Low VOC content
- High Gloss & Image Clarity
- Abrasion Resistance
- Impact Resistance
- Fast Cure
- Ease of use

Specification

ceraglaze SW1534 is supplied with the following physical properties. Although these parameters are typical of batch manufacture they do not constitute a specification.

Physical Property	Units	Method	Minimum	Maximum
Colour	-	visual	various	
VOC	g/litre		79	244
Gloss	units	GL-60-01	5	85
NVC (supplied RFU)	%		24	45
Cure Time(180-230°C)	minutes		8	12

Mixing Ratio

		p.b.w
SW1534 Range	Transparent Stoving Finish	98.0
M1478	Adhesion Promoter	2.0

*once mixed the product is stable for 8 hours. Loss of adhesion may result if the mixed product is used beyond this period.

Thinning

ceraglaze SW1534 will require the addition of de-ionized water the reduce viscosity for application of 15-17 seconds measured on a DIN4 flow cup at 25°C.

Surface Preparation

The substrate must be clean, free from contaminants and grease. If small areas of contamination are evident then localised cleaning with surfactant wash is recommended. On highly contaminated articles, steam degreasing is advised.

Application

Method of application: conventional and HVLP spray, electrostatic disc

Curing

Flash off time: 1-2 minutes
Curing time: 8-12 minutes @ 200-230°C

Film Properties

Property	Test	Result
Adhesion	1 mm cross-hatch, tape pull off	no removal
Dishwasher	100 Cycles (domestic)	no effect
Hardness	Pencil test	2H minimum
100% ethanol	30 minutes @ 20°C	no effect
3% Acetic Acid	24 hours @ 20°C	no effect
Heat Resistance	Stable to 180°C	no effect
2% caustic soda	24 hours @ 20°C	no effect
Solvent Resistance	MEK rubs	50
Pasteurisation	20 minutes in water @ 65°C	no effect
Water Resistance	10 days @ 20°C	no effect