

# Resistance Test Results KS-U with Hardener 030

## Mixing ratio:

10 : 1 with Hardener 030

15 % Thinner M 202

## Printing conditions:

Mesh 120-34 Y

Squeegee 70 Shore A

## Drying:

Jet-Drying 50 °C / 122 °F, 5 m/min

Tests were performed upon completion of the curing process

## Remarks:

- ++** good, no color-change
- +** acceptable
- ≈** poor
- not recommended, resp. coloration
- S** scratches
- P** polishing

## Printing substrates:

- (a)** Rigid PVC white  
Type: Genotherm FE 85 Manufacturer: Hoechst/Kalle
- (b)** Test mixture according to DIN ISO 2836  
30 % by volume ethyl acetate  
60 % by volume ethanol  
10 % by volume 1-methoxy-propanol-2
- (c)** Ink film redissolved, considerable gloss reduction
- (d)** Slight substrate material deformation
- (e)** Conditioning cabinet VC 4018 Manufacturer: Vötsch Company  
Proell2 temperature-humidity-profile:  
Relative humidity remains constant at 95 %. 5 cycles according to the following temperature pattern:  
Heating from 25 °C (77 °F) to 80 °C (176 °F) within 3 h,  
remaining at 80 °C (176 °F) for 5 h,  
cooling down to 25 °C (77 °F) within 3 h, remaining at 25 °C (77 °F) for 13 h.
- (f)** Quartant Scrub-Tester, Manufacturer: Prüfbau Company
- (g)** micro-gloss, geometry 60°, Manufacturer: Byk Gardner  
average value of 5 measurements
- (h)** Cross-hatch adhesion value

Test, Testing Medium	Evaluation:	KS-U 312 Red	KS-U 948 Black	KS-U 332 Red Opaque	KS-U 944 White Opaque	according to DIN	Test Temp. parameter
<b>Printing substrate</b>		Rigid PVC (a)	Rigid PVC (a)	Rigid PVC (a)	Rigid PVC (a)		
<b>Fastness to saliva</b>		++	++	++	++	53160-1	2 h 37 °C / 99 °F
<b>Fastness to perspiration</b>		++	++	++	++	53160-2	2 h 37 °C / 99 °F
<b>Water resistance:</b>						ISO 2836	24 h 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Solvent resistance:</b>						ISO 2836	5 min 20 °C / 68 °F
- Ethanol	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
- Test mixture <b>(b)</b>	Visible change of ink film	- (c)	- (c)	- (c)	- (c)		
	Coloring of testing medium	++	++	++	++		
<b>Fuel resistance:</b>						ISO 2836	5 min 20 °C / 68 °F
- Premium	Visible change of ink film	- (c)	- (c)	- (c)	- (c)		
	Coloring of testing medium	++	++	++	++		
- Regular gas	Visible change of ink film	- (c)	- (c)	- (c)	- (c)		
	Coloring of testing medium	++	++	++	++		
- Diesel	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Alkali resistance:</b> - 2.5 % NaOH-solution						ISO 2836	10 min 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Detergent resistance:</b> - 1 % Persil®-solution						ISO 2836	3 h 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Resistance to vegetable fat:</b> - Sunflower oil						ISO 2836	24 h 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Resistance to skin cream:</b> - Nivea®							24 h 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
	Coloring of testing medium	++	++	++	++		
<b>Conditioning cabinet (e)</b> (95 % humidity)		+ (d)	+ (d)	+ (d)	+ (d)		Proell2
<b>Heat resistance</b>		+ (d)	+ (d)	+ (d)	+ (d)		30 min 120 °C / 248 °F
<b>Scrub resistance (f)</b>		+ S	+ S	+ S	+ S		200 shears
<b>Level of gloss (g)</b>		83	83	75	23		
<b>Acid resistance:</b> - sulfuric acid, $\delta = 1.24$ g/ml							5 min 20 °C / 68 °F
	Visible change of ink film	++	++	++	++		
<b>Cross-hatch adhesion test (h)</b>		Gt 0	Gt 0	Gt 0	Gt 0	ISO 2409	

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