

## 23291 Permanent Red FRLI

Permanent Red FRLI is an opaque, yellow shade Naphthol AS pigment. It exhibits very good light fastness. Recommended for paste inks as well as for solvent and water based packaging gravure and flexographic printing inks.

Color index: Pigment Red 9  
 C.I. No.: 12460  
 Chemical group: Naphthol AS  
 CAS-No.: 6 410-38-4  
 Standardization: offset printing

### Product Specification

pH-value: --  
 Density: 1.50 g/cm<sup>3</sup>  
 Specific surface: 12 m<sup>2</sup>/g  
 Average particle size: 220 nm  
 Oil absorption: 56 ml/100 g

### Fastness properties

Staining of the test medium by:			
Test medium	Powder pigment	Pring / draw-down	Change of the print
Solvent mixture	3-4	4	4
Ethanol	4	4-5	4-5
Ethyl acetate	3-4	3-4	2
MEK	3-4	3-4	1
Toluene	3-4	3-4	1
White spirit	4	4-5	4-5
DOP	4	5	---
Paraffine	3-4	4-5	---
Butter	---	3	---
Soap	---	5	4-5
Alkali	---	5	5
Acid	---	5	5
<b>Heat Stability</b>	10 min.	< 140°C	
	30 min.	< 140°C	
<b>Light Fastness</b>	1/3 SD	14.0 %	6
<b>Light Fastness</b>		10.0 %	6
<b>Silver laquer</b>	3		
<b>Sterilization</b>	Water phase	Steam phase	
	3	4	

**Recommended for:**

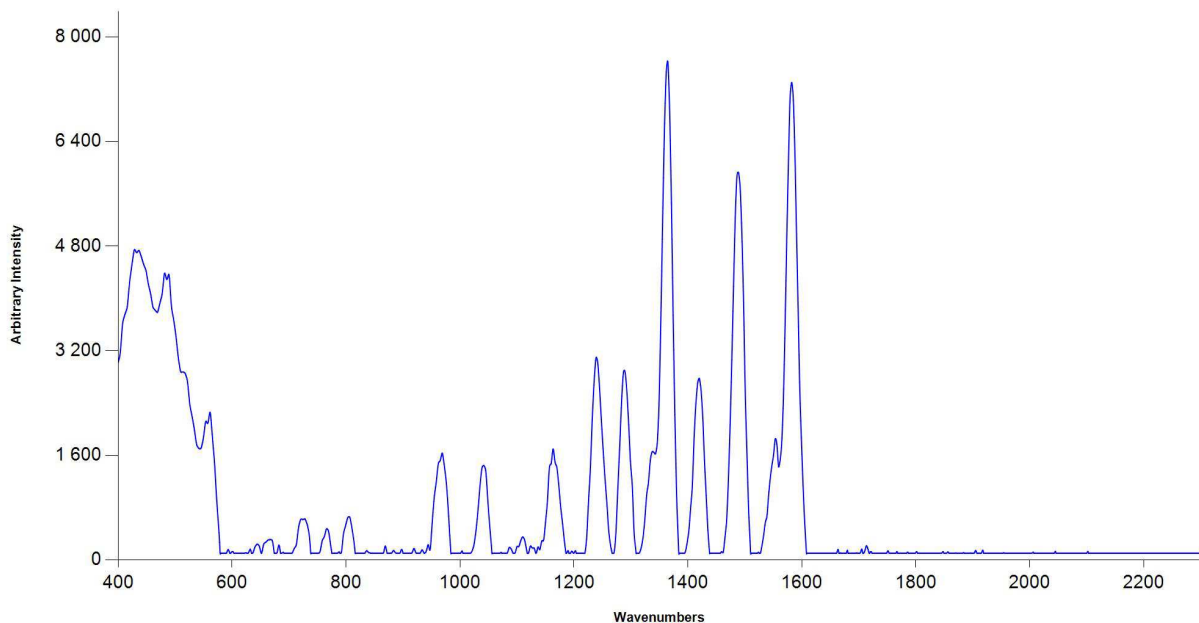
**Paste inks:**

Sheetfed	recommended
Heatset	recommended
Coldset	recommended
Silkscreen	not tested
Metal deco	not tested
UV curing (Offset)	recommended

**Liquid inks:**

NC alcohol	recommended
NC acetate	recommended
Water based	recommended
Polyvinyl butyral	limited suitability
Polyamide	highly recommended
Pub gravure, Toluene	not tested
Decorative laminates:	not tested
UV curing (Flexo):	highly recommended

Raman spectrum of 23291:  
(Source: MR PHSG, 2017)



— Sample Spectrum