



# RESPOL

RESINAS



INKS & VARNISHES  
Science from Nature

[www.respol.pt](http://www.respol.pt)

# Science from Nature

**ECOLOGICAL AND  
SUSTAINABLE SOLUTIONS**



## **Global applications**

Adhesives  
Coatings  
Cosmetics  
Printing inks  
Road markings  
Sealants

## **Our customers' products are important for us**

Years of experience, knowledge and innovation, along with our customers' expertise and close cooperation, allow us to deliver the best performing solutions to an ever-changing and challenging market.

## **TRADITION AND MODERNITY**

Our first rosin plant was established in the 1970s. Since then, our focus is the valorization of the forest by developing an intelligent and sustainable bio-economy, transforming bio-based raw materials into high added valued materials. Starting from local crude gum rosin, we have focused on developing and delivering to the market high quality rosin derivatives.

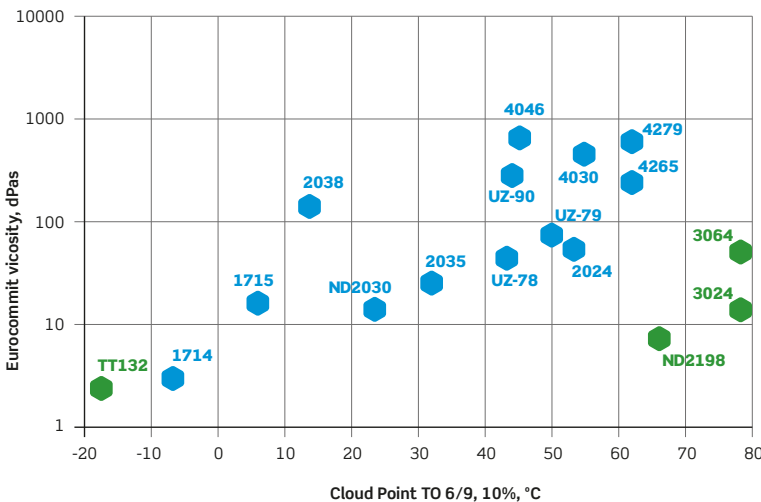
This sustainable strategy was intensified with the acquisition of Forchem Oy, which operates one of the largest and modern bio-refineries in the world. A renewable resource such as crude tall oil offers low carbon footprint solutions for everyday products such as printing inks, adhesives and coatings.

# Offset printing inks and varnishes

Product line	Product	VISCOSITY (Rheometer, 23°C, 25s <sup>-1</sup> , Pa.s)			CLOUD POINT (°C)		Properties and application recommendations
		% Solids	Viscosity	Test Oil	Cloud Point	Test Oil	
RESINK Phenolic modified rosin ester	R 1053	45%	40-55	6/9 AR	125-140	6/9	Low viscosity resins, for sheetfed inks and varnishes.
	R 1714	55%	8-15	6/9 AF New	50-70	6/9 AF New	High solubility with low viscosities. Suitable for grinding, sheetfed inks and varnishes and overprint varnishes.
	R 1715	50%	25-35	6/9	70-90	6/9 AF New	
	R 2024	45%	35-50	6/9 AR Blend	120-140	6/9 AF New	Medium viscosity resin, suitable for sheetfed and heatset inks and varnishes.
	R 2035	45%	20-35	6/9	120-140	6/9 AF	Medium viscosity resins with high solubility and good pigment wetting, ideal for sheetfed, heatset and coldset inks.
	R 2038	40%	20-30	6/9	110-130	6/9 AF	
	R 3084	35%	7-15	6/9 AR Blend	90-105	6/9	Modified phenolic resin, suitable for sheetfed and heatset inks and varnishes.
	R 3085	35%	15-30	6/9 AR Blend	75-90	6/9	Structured resins with very high viscosities. Suitable for sheetfed, heatset and news inks and varnishes.
	R 3252	35%	25-40	6/9 AR Blend	80-95	6/9	
	R 4046	35%	20-35	6/9 AR Blend	100-120	6/9 AF New	Highly structured resin with very high viscosity. Perfect for sheetfed, heatset and news inks and varnishes.
	R 4189	35%	60-80	Printosol 28/31 AR	165-185	6/9 AF New	Structured resin with extremely high viscosity. Suitable for sheetfed, heatset and news inks and varnishes.
	R 4265	40%	18-32	6/9 AR	115-135	6/9 AF New	Modified phenolic resin, suitable for sheetfed and heatset inks and varnishes.
	R 4279	35%	23-38	6/9 AR Blend	120-140	6/9 AF New	Highly structured resin, very high viscosity. For sheetfed, heatset and news inks.
R 7307	35%	35-50	6/9 AR	90-110	6/9 AR Blend	Structured with high viscosity, confers high gloss. For heatset and web offset inks.	
TERGRAF Phenolic modified rosin ester	TG 902	42,5%	20-35	6/9 AR	80-100	6/9	Intended for high quality sheetfed and quickset inks due to the lower tack in high speed press conditions, coupled with faster drying and high rub resistance.
	TG 903	40%	45-60	6/9 AR Blend	100-120	6/9	Medium viscosity and high softening point phenolic modified rosin resin could be advantageous for specific setting properties or higher gloss systems.
	TG 905	40%	20-30	6/9 AR	100-120	6/9	
	TG 906	40%	24-40	6/9 AR	118-128	6/9	Low tack, fast setting, good rub resistance and high gloss.
	TG 908	35%	25-45	6/9 AR	140-160	6/9	Very high viscosity, very low mineral oil tolerance. For offset inks and for letdown varnishes (flush system).
	TG 940	35%	20-35	6/9 AR	80-100	6/9 AR Blend	Extremely high viscosity and structure. Fast drying, high rub resistance and high gloss.
	TG ND2030	50%	20-35	6/9	70-90	6/9 AF New	High solubility and low viscosity resin, ideal for grinding or as co-resin.
	TG UZ-78	45%	25-38	6/9 AR Blend	45-55	6/9	Recommended for heatset inks and varnishes. Good setting, high gloss and low tack.
	TG UZ-79	42,5%	25-35	6/9 AR Blend	117-127	6/9 AF New	Fast setting, high film hardness combined with good lithographic properties and gloss.
	TG UZ-80	45%	30-45	6/9 AR Blend	45-65	6/9	For heatset inks and varnishes because of good setting, with high gloss and low tack.
	TG UZ-86	35%	30-45	6/9 AR Blend	80-90	6/9	High structured resin with high viscosity, for sheetfed, heatset and news inks and varnishes.
	TG UZ-90	37,5%	25-40	6/9 AR Blend	95-115	6/9 AF New	High viscosity resin with high solubility and molecular weight. For heatset and sheetfed inks.

## TECHNICAL CHARTS

### 40% 6/9 AR, high solubility



### 40% 6/9 AR, medium to low solubility



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		% Solids	Viscosity	Test Oil	Cloud Point	Test Oil	
<b>TERTAC</b> Phenol formaldehyde free rosin esters	<b>TT 170</b>	35%	40-60	6/9 AR Blend	60-80	6/9 AR Blend	High softening point maleic modified rosin esters that promotes faster drying, hardness, gloss, and colour stability to overprinting varnishes and offset printing inks.
	<b>TT 172</b>	40%	45-65	Printosol 28/31 AR	65-80	6/9 AR Blend	
	<b>TT 730</b>	40%	25-40	6/9 AR Blend	90-110	6/9	
	<b>TT ND2198</b>	45%	16-23	6/9	60-75	6/9	
<b>RESINK</b> Phenol formaldehyde free rosin esters	<b>R 1255</b>	45%	15-30	6/9	60-80	6/9	Low viscosity resin suitable for heatset and sheetfed applications.
	<b>R 3024</b>	50%	40-50	6/9 AR Blend	85-95	6/9	Medium viscosity, structure and solubility with high gloss. For sheetfed offset inks.
	<b>R 3064</b>	45%	40-55	6/9	130-140	6/9 AF New	Resin with high solubility and medium viscosity and structure. It provides good gloss and it's best suitable for sheetfed inks.
<b>RESINK</b> Phenolic hybrid with hydrocarbon modification	<b>R 4025</b>	40%	40-60	40% 6/9 + 20% ARLO	80-100	6/9 AF New	High viscosity and high solubility resin for heatset, sheetfed and coldset inks.
	<b>R 4030</b>	42,5%	90-110	6/9 AR Blend	120-140	6/9 AF New	Structured resin with very high viscosity and high solubility. For heatset and news inks and varnishes

## Gravure printing inks and varnishes

Product line	PRODUCT	VISCOSITY (in toluene, seconds)		DILUTION RATE (to 30" GS 042)	Properties and application recommendations
		% Solids	DIN #6	(ml toluene/100g resin solution), %	
			20°C	20°C	
<b>RESINK</b> Phenolic modified rosin ester	<b>R 6264</b>	38%	20-35	150-180	Viscous resins with high dilutabilities, good solvent release, very high gloss and high compatibility with other rosin phenolic resins, resinates and hydrocarbon resins. Perfectly suited for publication gravure inks.
	<b>R 6268</b>	35%	10-25	160-190	

## Modified rosin resins

Product line	Product	ACID VALUE (mg KOH/g)	SOFTENING POINT (°C)	VISCOSITY (Gardner Holdt, 25°C)	Properties and application recommendations
<b>REDUR</b>	<b>MA 70</b>	< 25	95-110	A-D (50%, White Spirit)	Modified rosin resins that give very good hardness, good gloss and good water and UV resistance. Suitable for interior and exterior varnishes. Can be used as well for nitro cellulosic varnishes and sealants.
	<b>MA 80</b>	< 25	100-120	D-F (50%, White Spirit)	
	<b>MA 100</b>	< 40	120-130	A1-A3 (50%, Toluene)	
	<b>MA 200</b>	< 20	145-155	A-B (50%, Toluene)	
<b>TERTAC</b>	<b>TT 150</b>	< 16	145-155	V-Z (50%, White Spirit)	These resins improve gloss, color retention, superior hardness and adhesion in nitro cellulosic varnishes and resinous varnishes.
	<b>TT N320</b>	< 30	115-125	G-H (65%, Toluene)	
	<b>TT N340</b>	< 35	130-140	F-J (60%, Toluene)	
<b>TERFENOL</b>	<b>TF 840</b>	< 20	120-135	B-E (50%, White Spirit)	Confers superior hardness, faster drying, better adhesion and gloss to paints. Good compatibility with most long oil alkyd resins.



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## ECOLOGICAL AND SUSTAINABLE SOLUTIONS

### ADVANCED PRODUCTION FACILITIES

Respol runs a highly efficient plant with a global production capacity of 50,000 tons/year, having earned ISO 9001, ISO 14001 and OHSAS 18001 certifications. Our committed and experienced personnel help us keeping quality and safety as our main priorities.

### Specific applications

Coldset  
Heatset  
Sheetfed  
Overprint varnishes  
Publication gravure  
Specialty coating



## Esterified adducts for inks

Product line	Product	ACID VALUE (mg KOH/g)	SOFTENING POINT (°C)	VISCOSITY (Rheometer, 23°C, 25s <sup>-1</sup> , Pa.s)			CLOUD POINT (°C)		Properties and application recommendations
				% Solids	Viscosity	Test Oil	Cloud Point	Test Oil	
<b>TERTAC</b> Fumaric Resins	<b>TT 132</b>	< 20	110-125	60%	25-35	6/9 AR Blend	50-70	6/9 AF NEW	Low viscosity fumaric resins used to confer high gloss, color stability, fast drying and hardness to overprint varnishes. Recommended for offset printing inks.
	<b>TT 160</b>	< 25	150-160	45%	28-35	6/9	50-60	6/9	

## Varnishes for inks

Product line	Product	VISCOSITY (Rheometer, 23°C, 25s <sup>-1</sup> , Pa.s)	CLOUD POINT (°C)		Properties and application recommendations
			Cloud Point	Test Oil	
<b>RESISOL</b> Varnishes	<b>RE 2137</b>	100-120	100-110	6/9 AF New	Resin, mineral and vegetable oils based varnishes for offset inks. Excellent wetting, misting and gloss.
	<b>RE 2181</b>	90-105	60-90	6/9 AF New	
	<b>RE 2193</b>	95-110	150-170	6/9 AF New	
	<b>RE 2320</b>	120-140	72-82	6/9	
	<b>RE 2321</b>	40-60	70-80	6/9	
	<b>RE 2413</b>	100-120	95-105	6/9	
<b>RE 4860</b>	350-400	125-140	6/9 AF New		

As we cannot anticipate all conditions under which our products may be used, we accept no responsibility for results obtained by the application of this information or by the use of our products, either used alone or in combination with other products. Users are invited to make their own tests to determine the suitability or the safety of each such

product for their own purposes. With the exception of the above approved specifications, we sell the products without warranty, buyers and users assume all responsibility and liability for loss and damage arising from the handling and use of our products, either used alone or in combination with other products.



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