

# RESINS FOR TIRES



# GLOBAL LEADER IN BIO-BASED RENEWABLE PRODUCTS

- ▶ Largest CST (Crude Sulfate Turpentine) fractionator in the world and largest producer of terpene based resins
- ▶ Innovative and tailor-made solutions
- ▶ Bio-based tackifiers
- ▶ High thermal stability
- ▶ Wide range of compatibility
- ▶ Improved tire performances such as wet grip / rolling resistance balance

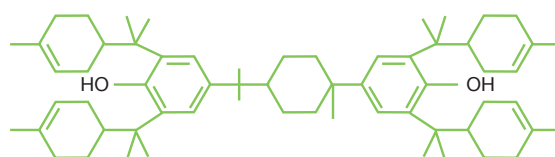


## DRT RESINS FOR TIRE COMPOUNDING

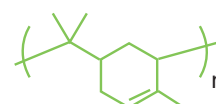
	SP °C	Tg °C	MW (daltons)
<b>TERPENE PHENOLICS</b>			
DERTOPHENE T	95	45	700
DERTOPHENE T 105	105	55	700
DERTOPHENE T 115	120	65	700
DERTOPHENE H 150	118	65	700
<b>POLYTERPENE RESINS</b>			
DERCOLYTE LTG	20	-20	550
DERCOLYTE A 115	115	69	1000
DERCOLYTE S 115	115	70	2300
DERCOLYTE M 115	115	70	1300
DERCOLYTE L 120	122	72	1100
DERCOLYTE TS 105	105	55	1200
<b>ROSIN DERIVATIVES</b>			
DERTOLINE PLS	96	53	850
HYDROGRAL G	85	42	700

## RESINS CHEMICAL STRUCTURE

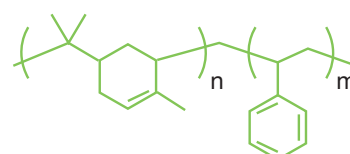
TERPENE PHENOLIC



POLYTERPENE



TERPENE STYRENE



## AROMATICITY / ALIPHATICITY

Aromaticity, aliphaticity and molecular weight are key parameters to select the appropriate resins that have to be mixed with the different rubbers used in tire formulations.



## CURATIVE PROPERTIES

Initiating DRT resins in tire compound will give only minor changes to the curative properties compared to the control's data.

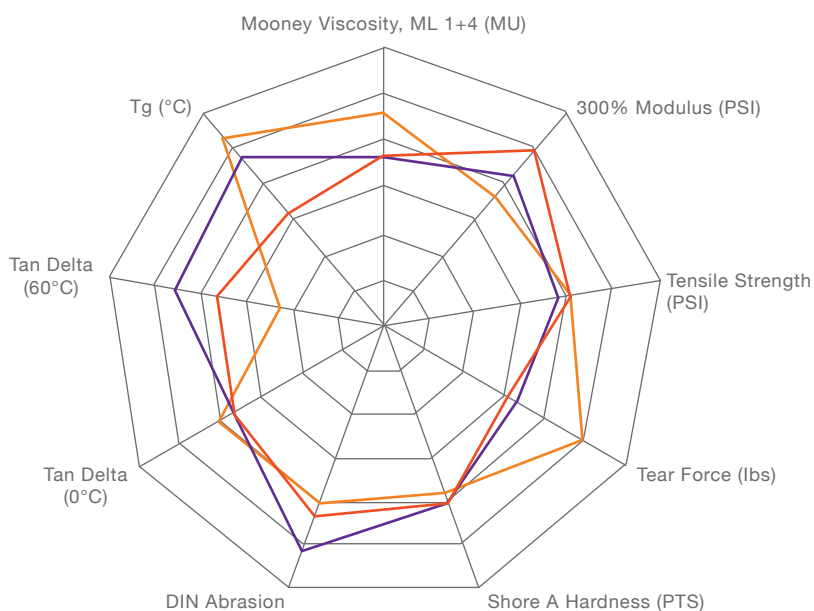
PRODUCT	Mooney (ML 1 +4 MU) 100°C	Scorch Time (Min)	Cure (Min)
CONTROL	84.41	1.43	13.37
DERCOLYTE A 115	95.00	1.57	15.04
DERCOLYTE TS 105	86.07	1.85	13.28
DERTOPHENE T 105	86.90	1.81	13.67
DERTOLINE PLS	89.10	1.57	11.46

## TIRE FORMULATION

This graph compares the viscoelastic characteristics of different resins in a standard tire formulation, the difference in the chemical structure explains why the characteristics and the performances vary.

- Dertophene T 105 8PHR
- Dercolyte A 115 8PHR
- Dercolyte TS 105 8PHR

### DERCOLYTE & DERTOPHENE COMPARISON



# DRT THE BEST OF NATURE

Using raw materials extracted from pine trees, DRT produces rosin and terpene based derivatives for a number of applications such as perfumery, adhesives, chewing-gum, rubber, coatings and many more.

Resins have become an essential element in many formulations today. Leader in pine chemistry industry, DRT is constantly adapting its products to meet the new industrial, technical and economical needs of its customers.

DRT's technical expertise in bio-based tackifying resins will enable tire compounders to improve tire performances and process properties to increase safety on the road for a better environment.



[www.drt.fr](http://www.drt.fr)



LES DÉRIVÉS RÉSINIQUES & TERPÉNIQUES - 30 Rue Gambetta - BP 206 - 40105 DAX Cedex - FRANCE  
[www.drt.fr](http://www.drt.fr) - email : [drtsales@drt.fr](mailto:drtsales@drt.fr) - Tél. : +33 (0)5 58 56 62 00 - Fax : +33 (0)5 58 56 62 40  
Société Anonyme au Capital de 13.408.000 Euros - Siret 985 520 154 00016 B.R.C.S. Dax