

CRAY VALLEY

HYDROCARBON RESINS

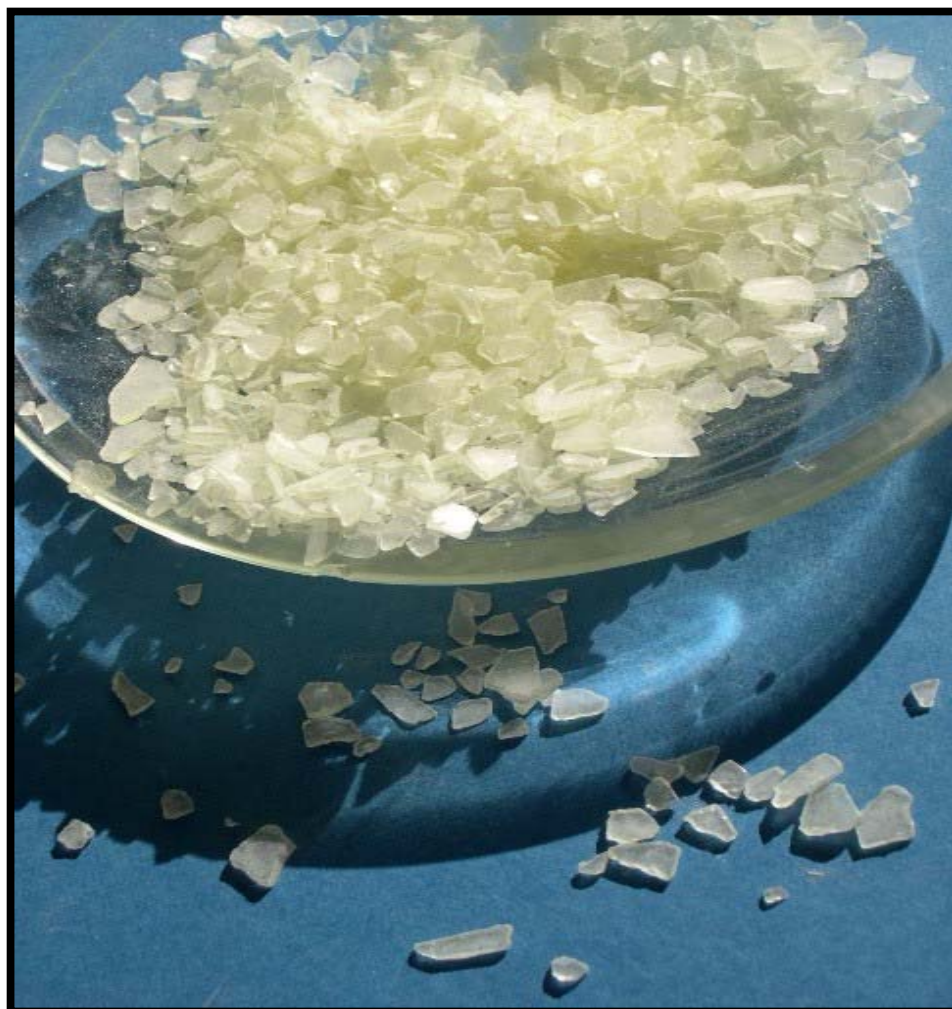
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TECHNICAL DATA SHEET

WINGTACK[®] STS



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WINGTACK® STS

Thanks to a revolutionary proprietary process and chemical technology **WINGTACK® STS** is a new aromatically modified C5 hydrocarbon resin that shows excellent performance in formulations that have traditionally required Styrenated Terpenes.

WINGTACK® STS has:

- ▶ Extremely low Odor
- ▶ Excellent compatibility with polar elastomers
- ▶ A steep viscosity curve vs temperature

Commercial specifications	Test method	WINGTACK STS
Appearance, pass or fail	Visual	Pass
Black spec, pass or fail	E-656	Pass
Softening point Ring and Ball, °C	ISO 4625	94 ± 4
Coloration Gardner (50% toluene solution)	ISO 4630	≤ 3.5
Gardner Colorimeter. RD , GC	E-803a	90 - 100

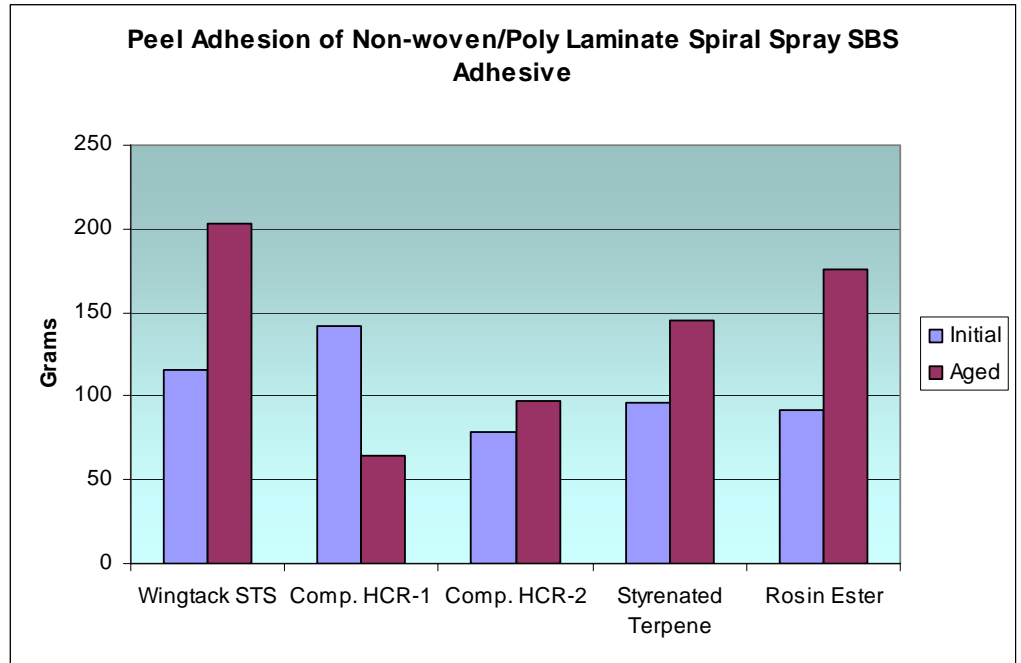
Typical Properties	WINGTACK STS
Appearance	Light yellow solid
Softening point Ring and Ball , °C	94
Coloration Gardner (50% toluene solution)	3
Molar weight (g/mol) :	
Mn	1 000
Mp	1 600
Polydispersity	1.6
Glass transition temperature Tg (midpoint) , °C	44
Ash content, %	< 0.01

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When evaluated in an adhesive where styrenated terpenes were traditionally used this new hydrocarbon gave higher Peel Adhesion than the styrenated terpene, two competitive hydrocarbon resins and a typical rosin ester.

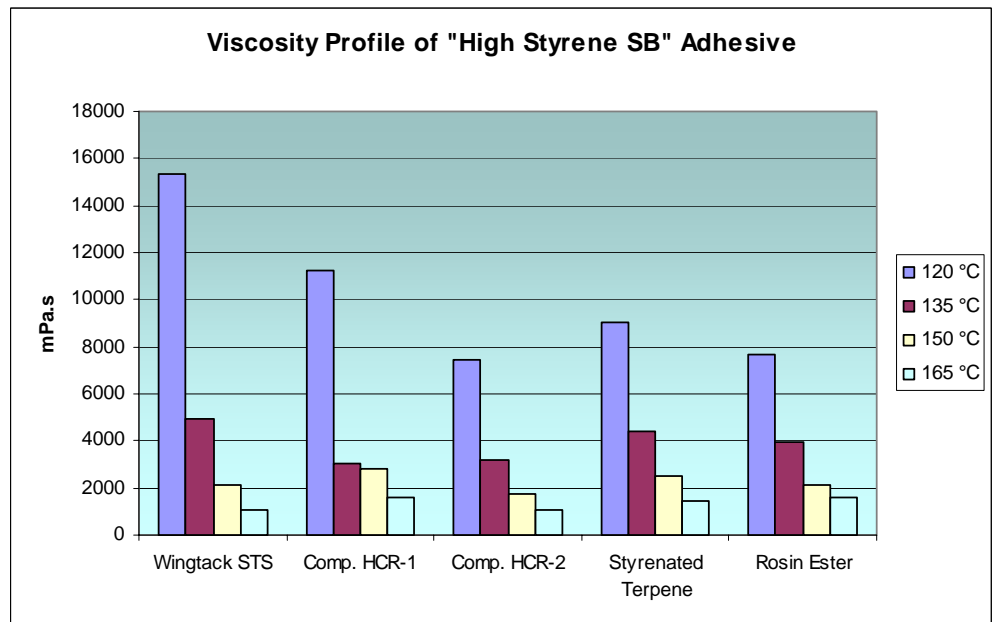
The odor of the adhesive using **WINGTACK STS** was exceptionally low and judged to be equivalent to or better than the styrenated terpene while the other competitive resins had unacceptably high odor.

When adhering low basis weight non-wovens to Poly, only the **WINGTACK STS** and the styrenated terpene showed no "strike-through."



We compared **WINGTACK STS** to two competitive hydrocarbon resins, a styrenated terpene and a rosin ester in three common adhesive formulations for non-wovens and consistently observed that the adhesives made with **WINGTACK STS** had the fastest reduction in viscosity as a function of adhesive temperature.

WINGTACK STS is not a drop-in replacement for styrenated terpenes in all formulations. Some re-formulation may be required to adjust the adhesive system for optimum performance with this hydrocarbon resin.



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Safety Data Sheets

The Safety Data Sheets (SDS) are available on the CRAY VALLEY website:
<http://www.crayvalley.com>

These results obtained in our laboratory are given in good faith according to the method used and the samples checked. The values cannot be used to set specifications. They are indicated without Cray Valley's guarantee or liability. All given formulations are starting formulations and they are indicated without Cray Valley's guarantee or liability. They are based on our present technical knowledge and experience. They do not relieve processors of the responsibility of carrying out their own tests and experiments, because many factors that could influence the result may arise during processing and application; neither do they imply or give legally binding assurance of certain properties or of suitability for a specific purpose. Any proprietary formulation should be respected.

Shelf life :Wingtack resins are inert and stable. Their shelf life mainly depends on the storage conditions and end use. Their average shelf life is about 2 years. This average shelf life is given without Cray Valley's guarantee because Cray Valley does not control end uses and the storage conditions at customers.

Storage : all resins with a low softening point present a risk of solidifying, which increases in hot weather. Therefore for softening points of less or equal to 100 °C, we recommend : storage in a cool (25 °C max), ventilated area, out of the sunlight; do not stack pallets; avoid storage for prolonged period.