



# RA-21S

## SOLVENT BASED RELEASE AGENT

**RA-21S** is a high total solids solution of a polyurethane release agent in a recoverable solvent. It offers significant improvements over other release agents, such as PVDOC.

While most release agent solutions must be maintained above ambient temperatures (~75°F or 25°C) by heating to prevent precipitation of the release agent on transfer, storage and coating, **RA-21S** is stable without heating, even below freezing temperatures, at all concentrations of its solutions. The absence of a heating requirement reduces energy cost, fire hazards, and the possibility of clogging the gravure rolls that could cause inadequate coat weight and thus yielding excessive unwind adhesion and wasted rolls of tape.

Compared to solid release agents, the active ingredient in **RA-21S** is pre-dissolved in a recoverable hydrocarbon solvent. It replaces the dissolving process with a simple dilution that reduces or completely eliminates time, labor, heat, mechanical energy, quality control for making sure all the powder is dissolved, VOC emission, workers exposure to toluene, fire hazard and dusting. Furthermore, the dilution process with **RA-21S** is simple, fast and may be automated, thus yielding more consistent release.

**RA-21S** allows the production of tapes with outstanding water resistance even at high temperatures.

Unlike other release agents, **RA-21S** may be applied to both rough and porous substrates at high total solids to produce specialty tapes, such as steam sterilizing paper tape, which is not practical with other release agents.

**RA-21S** is functional for tapes with most types of adhesives, including SIS, SIS/SB, SBR, natural rubber and acrylic-based adhesives, and most backings, such as polypropylene, polyethylene, polyester, PVC and paper.



Coater-ready solutions for film tape applications are easily prepared by mixing one part **RA-21S** with 1 - 100 parts toluene, depending on the adhesive, coat weight, substrate and coating method. The solution may be used as delivered or diluted with toluene or a VOC-exempt solvent, such as acetone, dimethyl carbonate, and propylene carbonate.

Application methods for film substrates include Meyer rod #3-12, Anilox and rotogravure roll #160-350. For most tape applications 0.2-1.5% TS yields balanced release properties. For initial trial, use the same level of total solid of RA 21S as PVDOC.

Release properties develop by simply flashing off toluene in an oven usually at 120-170°F (50-75°C), depending on substrate, web speed, oven length, air temperature, air velocity, and oven design. Unlike silicone release agents, crosslinking is neither occurring, nor necessary on drying or tape storage. These properties allow release coating and adhesive coating in a single step without the possibility of contamination of the adhesive by partially crosslinked release agent.

<b>TYPICAL PROPERTIES</b>	
<b>APPEARANCE</b>	<b>CLEAR TO SLIGHTLY TAN</b>
<b>TOTAL SOLIDS</b>	<b>39%</b>
<b>VISCOSITY</b>	<b>200cps</b>
<b>pH</b>	<b>-</b>

<b>UNWIND ADHESION VALUE - g/2"(5cm)</b> <b>BASED ON PREMIUM OPP PACKING TAPE WITH SIS-BASED PSA</b>	
<b>GREEN (OFF-SLITTER)</b>	<b>EASY - 250</b>
<b>AGE 150°F (65°C) FOR 72 HR</b>	<b>MODERATE - 450</b>
<b>AGE 120°F (49°C) AT 90% RH FOR 72HR</b>	<b>MODERATE - 400</b>
<b>SHELF STORAGE 12 MONTHS</b>	<b>MODERATE - 400</b>

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