

Solvent based technology was intrinsic to the development of self-adhesive labelstock manufacture and maintains a position today in highly technical niche markets. The European usage decline of solvent based systems was related to safety, environment and cost issues rather than technical unsuitability. Today with, modern solvent recovery units, these materials can still offer unique performance on specific substrates and are used widely in speciality applications. For example, when coating onto PET film,

solvent based systems offer advantages of excellent anchorage, smooth and even coverage at very low coatweights and very easy slow speed release. These properties make solvent based coatings hard to beat for premium product applications such as "clear on clear" labels.

Whilst the solvent based market is predominantly platinum cure there is still a place for tin cure in specific applications, such as tapes.

## Comparison of tin polycondensation and platinum polyaddition system features

	SILCOLEASE® 7400 SERIES PLATINUM CATALYSED POLYADDITION CURING SOLVENT BASED SYSTEM	SILCOLEASE® 429 TIN CATALYSED POLYCONDENSATION CURING SOLVENT BASED SYSTEM
<b>SAFETY</b>	Solvent flammability	Solvent flammability
<b>CURE SPEED</b>	Fast	Slow
<b>IN-LINE ADHESIVE LAMINATION POSSIBLE</b>	Yes	No
<b>BLOCKING</b>	No	Yes
<b>SUBSTRATE SENSITIVITY</b>	Medium	Low
<b>SILICONISE OVER PRINT</b>	No	Yes
<b>COAT PET/PE/OPP FILM</b>	Yes	Yes
<b>COAT PVC FILM</b>	No	Yes
<b>RELEASE VS SOLVENT ACRYLIC ADHESIVES</b>	Medium	Low
<b>EXCELLENT COVERAGE AT LOW COATWEIGHT</b>	Yes	Yes
<b>COEFFICIENT OF FRICTION</b>	Low	Very low
<b>FOOD CONTACT APPROVED</b>	Yes	No

Whilst frequently characterised by slow speed release values (FTM3), elevated values for high speed release (FTM4) are commonly seen with solvent based systems. Related to the high molecular weight gums used in these systems, tight FTM4 release can be an advantage for many applications (e.g. certain high speed label

dispensers) but where a flatter release profile is needed, special systems have been developed. In the Asian market solvent based systems are still of great importance for many standard applications, hence the greatly expanded range manufactured in the region.

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# Solvent based polyaddition curing systems

SILCOLEASE® PRODUCTS	PRODUCT REFERENCE	FEATURES
POLYMER RANGE IN ALIPHATIC SOLVENT*	7420 (30% solids)	<ul style="list-style-type: none"> <li>General purpose base for 3 component system</li> <li>Flexible product formulation</li> <li>Low to medium release</li> </ul>
	7440 (30% solids)	<ul style="list-style-type: none"> <li>General purpose grade for 3 component system</li> <li>Improved performance on films</li> <li>Lower temperature or faster cure</li> <li>Very low migration</li> <li>High bath stability</li> <li>Medium release</li> </ul>
POLYMER RANGE IN AROMATIC SOLVENT**	7410 (30% solids)	<ul style="list-style-type: none"> <li>General purpose base for 3 component system</li> <li>Flexible product formulation</li> <li>Low to medium release</li> <li>Good for papers</li> </ul>
	7412 (30% solids)	<ul style="list-style-type: none"> <li>General purpose base for 2 component system</li> <li>Low to medium release</li> <li>Good for papers</li> </ul>
	7430 (30% solids)	<ul style="list-style-type: none"> <li>General purpose base for 2 component system</li> <li>High bath stability</li> <li>Good for films</li> </ul>
	7432 (30% solids)	<ul style="list-style-type: none"> <li>General purpose base for 2 component system</li> <li>Good for films</li> <li>Tight release base polymer</li> </ul>
	7450 (48% solids)	<ul style="list-style-type: none"> <li>General purpose base for 2 component system</li> <li>High solids content</li> <li>High bath stability</li> <li>Good anchorage and cure</li> </ul>
	KF 150 (48% solids)	<ul style="list-style-type: none"> <li>Low release 2 component system</li> <li>High bath stability</li> <li>High solids content</li> <li>Low release vs acrylic solvent adhesives</li> </ul>
	7451 PEX*** (48% solids)	<ul style="list-style-type: none"> <li>General purpose 2 component system</li> <li>Very easy release</li> <li>High solids</li> <li>Good anchorage and fast cure</li> </ul>
	7460 (30% solids)	<ul style="list-style-type: none"> <li>General purpose 2 component system</li> <li>Excellent for film, especially PET</li> <li>Very good anchorage</li> <li>Very low migration</li> </ul>

\* European Production

\*\* Asian Production

\*\*\* Experimental Product (discuss availability with your technical or sales contact)

SILCOLEASE® PRODUCTS	PRODUCT REFERENCE	FEATURES
CROSSLINKER	90A	<ul style="list-style-type: none"> <li>Fast cure</li> <li>Suitable for use vs aggressive acrylic adhesives</li> </ul>
	91A	<ul style="list-style-type: none"> <li>General purpose co-polymer</li> <li>Good compromise of cure and anchorage performance</li> </ul>
	92A	<ul style="list-style-type: none"> <li>Homopolymer crosslinker</li> <li>Excellent abrasion resistance on wide range of substrates</li> <li>Easy release (low adhesive interaction)</li> </ul>
CATALYST	90B	<ul style="list-style-type: none"> <li>Standard Catalyst</li> <li>Use with 7410, 7412, 7420</li> </ul>
	91B	<ul style="list-style-type: none"> <li>Concentrated catalyst</li> <li>Use with 7410, 7412</li> </ul>
	93B	<ul style="list-style-type: none"> <li>Concentrated catalyst</li> <li>Use with 7430, 7432, 7440, 7460</li> </ul>
	94B	<ul style="list-style-type: none"> <li>Concentrated catalyst</li> <li>Use with 7450, KF 150, 7451 PEX</li> </ul>
RELEASE CONTROL ADDITIVE	RCA 1	<ul style="list-style-type: none"> <li>Easy release modifier</li> </ul>
	RCA 2	<ul style="list-style-type: none"> <li>Tight release modifier</li> </ul>
	RCA 3	<ul style="list-style-type: none"> <li>Tight release modifier</li> </ul>

All catalysts are FDA compliant

# Solvent based polycondensation curing systems

SILCOLEASE® PRODUCTS	PRODUCT REFERENCE	FEATURES
POLYMER	429	<ul style="list-style-type: none"> <li>Dibutyl tin catalyst</li> <li>Good for substrates that inhibit Pt catalysts</li> </ul>
CROSSLINKER	92A	<ul style="list-style-type: none"> <li>Good anchorage to most substrates</li> <li>Medium release force with general purpose adhesives</li> </ul>
CATALYST	62A and 62B	<ul style="list-style-type: none"> <li>Easy and stable release with solvent based acrylic adhesives</li> <li>Industrial applications only (no food contact approval)</li> </ul>