

INFO SHEET | SILPURAN® | RELEASE LINERS FOR SILICONE SKIN ADHESIVE GELS

EASY RELEASE FOR SILPURAN® ADHESIVE GELS

Release Liner Solutions for Skin Contact Applications

WACKER silicone adhesive gels have contributed to the steady improvement of professional wound care for over 20 years. They satisfy the highest medical standards by enabling secure fixation on skin without compromising gentle and atraumatic removal.

Recent developments in wound care have increased the demand for strong skin adhesives, as there is a trend toward longer wear time to reduce treatment costs as well as a rapidly growing market for wearable medical devices.

This opens up a whole range of new opportunities for coaters, processing companies and OEMs to develop a variety of new products for use in these applications.

To allow developers to concentrate on new products, WACKER is happy to advise you on release liner combinations that meet your application needs.

SILPURAN® High Adhesion Gels for Wearables

Over the recent past, we have added high adhesion strength silicone skin adhesives such as SILPURAN® 2114 and 2122 to our portfolio. These products allow our customers to participate in the growing market of applications like wearables, which require longer wear time, mobility and stronger load-bearing properties. The soft but strong adhesive gels deliver the painless removal and repositioning properties for which our silicones are known so well.

Adhesive/Liner System Performance

Skin adhesive gels are typically used as part of a system requiring uncom-

promised adhesion to the backing layer combined with low adhesion to the release liner.

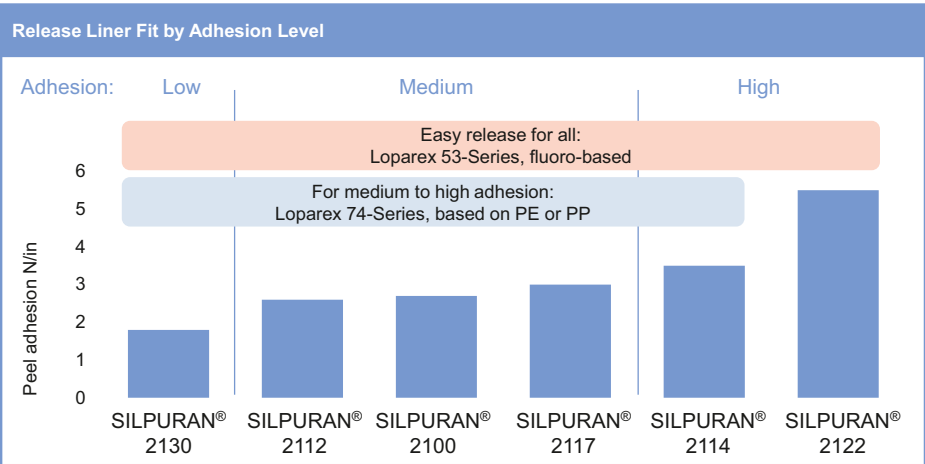
Release liners are an essential part of the ultimate product as the applications require proven system performance as a whole.



Bandage with release liner

Combinations for Different Applications

- Liners based on low density polyethylene or polypropylene substrates such as the Loparex 74-Series are specifically designed for low to medium adhesion applications (see table on the left).
- Highly engineered fluoro-based release liners such as the Loparex 53-Series provide low peel release for even the strongest adhesive gels.
- Fluoro liners have proven themselves ideal for broad application portfolios, as they can handle all adhesion levels from low to high. This results in less inventory and thus lower storage space and offers additional benefits like improved operational effectiveness and waste reduction.



Release Liner Requirements

The basic function of release liners is to protect the adhesive layer of the medical device. Release liners for skin applications must meet certain key requirements:

- Adjustable smooth and stable release
- Conformability
- Regulatory compliance
- Sterilizability
- Suitability for die-cutting
- Printability

Easy-to-Use Combinations

There are several well-established release liner solutions for soft silicone adhesives with low to medium adhesion strength that meet all the above requirements. As higher adhesion silicone gels can be more challenging, we ran a test program to identify easy-to-use release liners. The graphs below show high-performing

combinations of SILPURAN® 2114 and SILPURAN® 2122 adhesive gels in combination with selected Loparex release liners. In all cases, the peel strength remains below 0.5 N/in and is stable over time, thus increasing the shelf life of the end product. Note that Loparex 53395 provides exceptionally low peel strength for SILPURAN® 2122, our highest adhesive strength gel.



The release liner can easily be removed from the silicone adhesive coating.

Selecting Optimal Release Liners

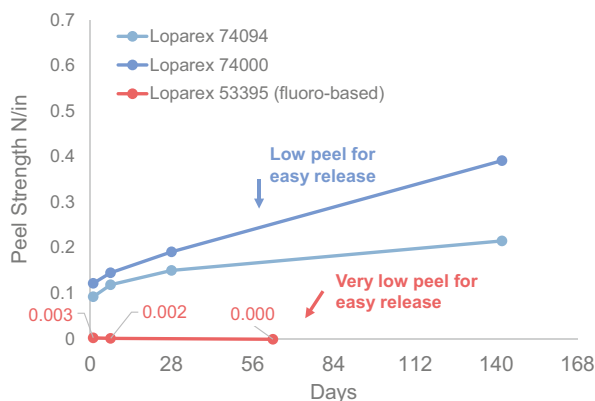
When it comes to the right combination of adhesive and liner, a number of things need to be considered:

- Material compatibility can have a significant impact on performance
- The liner should release without removing adhesive upon peel
- Increase in peel force should be less than 2.5 x after 9 weeks at room temperature
- The peel force should not exceed 0.5 N/in

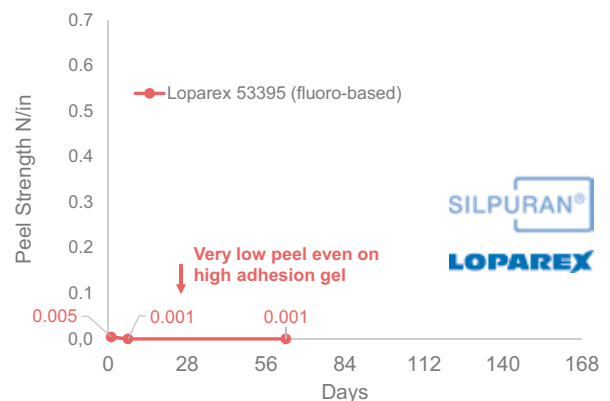
Benefits Along the Value Chain

It is our aim at WACKER to support our customers the best we can, so that they can bring successful products to market faster. The results of our test program on adhesive gel and release liner combinations can help developers avoid iterations and reduce risk by optimizing costs and performance.

Release Liner Performance on SILPURAN® 2114



Release Liner Performance on SILPURAN® 2122



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