



日信化学工业株式会社 Nissin Chemical Industry Co.,Ltd.

**SILFACE<sup>®</sup>**

Silicone family additive agents

硅酮系添加剂



# Characterlstics of SILFACE

SILFACE的特征

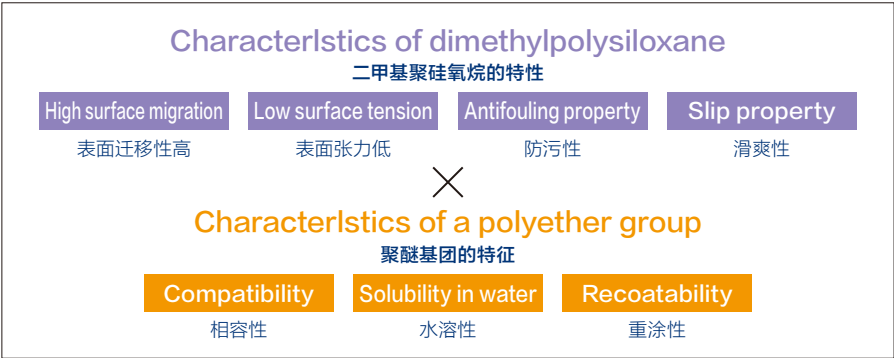
SILFACE is a series of additive agents composed mainly of polyether-modified silicone. By adding very small amount of SILFACE, it can help improve wetting properties, permeability, slip properties and easy peelability .

SILFACE是以聚醚改性硅为基本结构的添加剂。通过在各种涂料中微量添加、可以赋予润湿性/渗透性、滑爽性/脱模性等。



SILFACE is an additive that modified dimethylpolysiloxane's silicone chain with polyether group(s). This modification makes SILFACE a surfactant with many unique characteristics. Whether it is added to a water system, a solvent system, or a UV system, SILFACE delivers performance as designed.

SILFACE是采用聚醚与二甲基硅氧烷接枝共聚而成的一种性能独特的有机硅非离子表面活性剂。它在水性，溶剂性，或者UV产品中都可以有效发挥性能。



# Structure of SILFACE

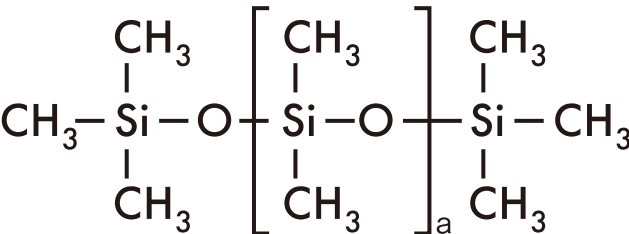
SILFACE的结构

SILFACE is composed mainly of polyether-modified silicone, or the silicone chain of dimethylpolysiloxane to which a polyether group (ethylene oxide and propylene oxide) is introduced. By changing the modification type (side-chain modification or terminal modification), the length of the silicone chain (a), the length of the polyether group (b and c) and the terminal group of polyether (R), various structures can be designed to offer SILFACE with various characteristics.

SILFACE以在聚二甲基硅氧烷的硅链中导入聚醚基（环氧乙烷、环氧丙烷）的聚醚改性硅为基本结构。可以对改性类型（侧链改性、末端改性）、硅链长度（a）、聚醚基长度（b、c）、聚醚的末端基（R）进行各种结构设计，从而实现具有各种特性的SILFACE。

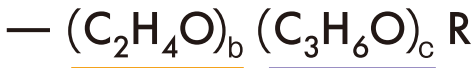
## Silicone chain

硅胶链



## Polyether group

聚醚类



Ethylene oxide  
环氧乙烷

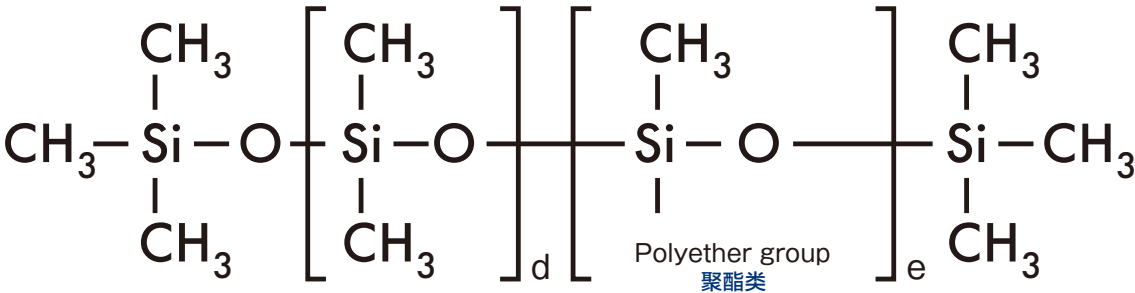
Propylene oxide  
环氧丙烷

# Performance of SILFACE by different modification type

不同改性类型的SILFACE性能

## Side-chain modification

侧链改性类型



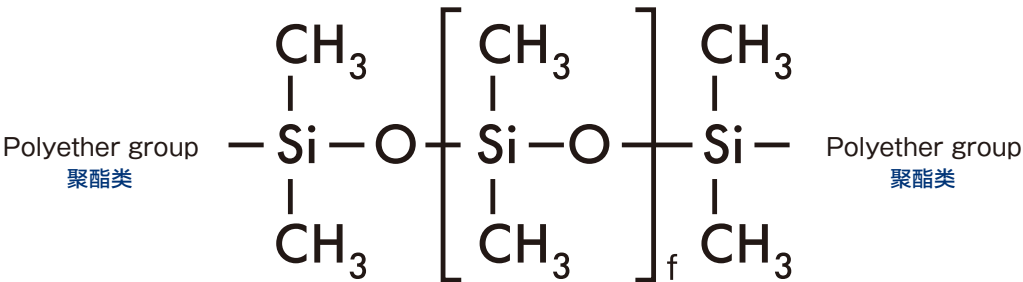
This is SILFACE with the polyether group introduced to a side chain of the silicone chain.  
是在硅链的侧链上导入聚醚基的SILFACE。

- Performance/Has excellent wetting properties and permeability.
- Applications/Inks, paints, coating agents, etc.
- 性能/润湿性、渗透性优异
- 用途/油墨、涂料、涂层剂等



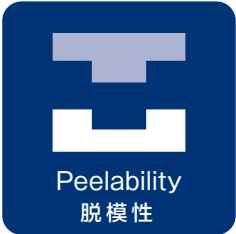
## Terminal modification

末端改性类型



This is SILFACE with the polyether group introduced to an end of the silicone chain.  
是在硅链的末端导入聚醚基的SILFACE。

- Performance/Has excellent slipping properties and easy peelability
- Applications/Paints, coating agents, etc.
- 性能/滑爽性、脱模性优异
- 用途/涂料、涂层剂等

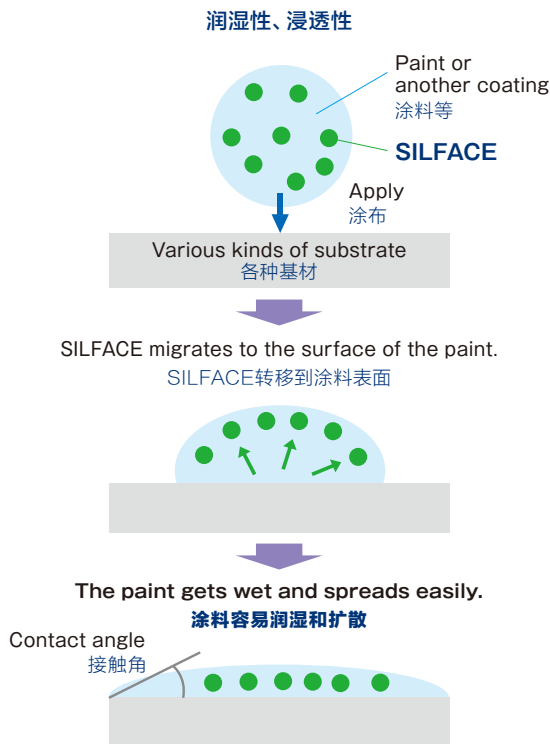




# Performance and mechanism of SILFACE

SILFACE的性能和机制

## Wetting property and permeability

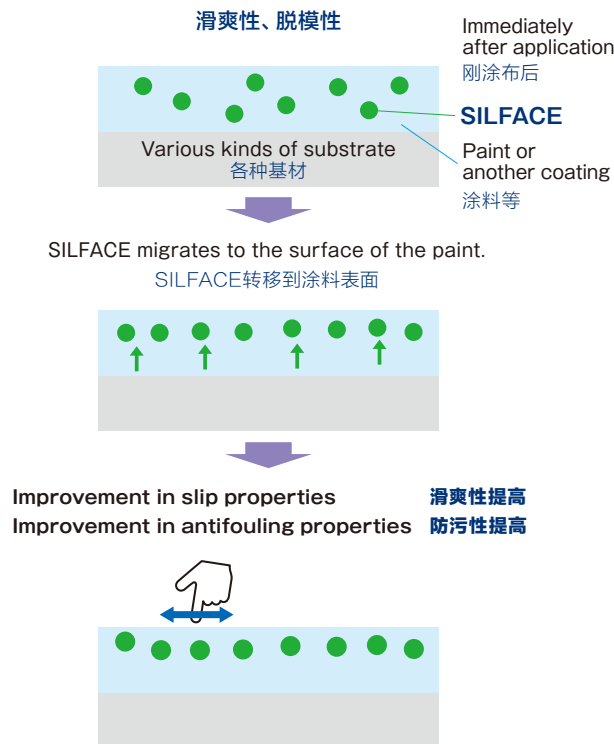


Contact angle: 接触角:

A contact angle is a numeric value that indicates degree of wetting. The better the wetting property is, the smaller the contact angle is.

是量化润湿程度的数值、润湿性越好接触角越小

## Slip property and mold peelability



Coefficient of friction: 防污性提高:

A coefficient of friction is a numeric value that indicates how slippery the surface is. The better the slip properties are, the smaller the coefficient of friction is.

是量化清爽程度的数值，清爽性越好摩擦系数越小

# Physical properties of SILFACE SAG503A

SILFACE SAG503A的物性 [代表产品]

[General grade]

## Physical properties of 0.1 wt% aqueous solution

0.1Wt% 水溶液物性

Dynamic surface tension 动态表面张力 (mN/m)	
1Hz	37
10Hz	59
Static surface tension 静态表面张力 (mN/m)	22
Foaming property (mL) 起泡性 (mL)	
Immediately after shaking 刚振荡之后	35
After the aqueous solution was allowed to stand for 5 min. 放置5分钟后	32

## Contact angle

Substrate: SUS304  
Solution: 0.1 wt% aqueous solution

接触角 基材: SUS304 溶液: 0.1wt%水溶液

	Pure water only 仅纯净水	SAG503A
1 sec. after dropping 滴下1秒后	 100°	 34°
10 sec. after dropping 滴下10秒后	 98°	 16°
30 sec. after dropping 滴下30秒后	 96°	 7°

SILFACE is available in various grades. The recommended grade depends on the purpose of use. For more details, contact our contact person.

我们备有各种等级的产品。推荐等级因用途而异、详情请咨询相关负责人。

For more information about “SILFACE®” please contact:

查询更多SILFACE®的相关信息:

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