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日信化学工业株式会社

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Informational video about SOLBIN:
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SOLBIN

Vinyl Chloride-Vinyl Acetate Based Copolymer
氯乙烯・醋酸乙烯酯类改性树脂

SOLBIN

Vinyl Chloride-Vinyl Acetate Based Copolymer
氯乙烯・醋酸乙烯酯类共聚物树脂

Copolymer resin with characteristics of vinyl chloride and vinyl acetate
结合氯乙烯和醋酸乙烯化学特性的共聚物树脂

SOLBIN is a modified resin that combines the toughness and chemical resistance of vinyl chloride, strong adhesiveness and plasticity of vinyl acetate, and other polar groups that enhance adhesivity and solubility.
Due to its many outstanding characteristics, including it's film lack of odor or taste and high resistance to water penetration,
SOLBIN has been used as an essential part of various paints, inks, and adhesives. as a binder for magnetic cards and tapes,and as a coating agent for soft drink cans and moisture-proof cellophanes.

SOLBIN改性树脂，结合氯乙烯强韧性、抗耐性与醋酸乙烯酯强附着性、可塑性，及其他极性基团，增强粘附性、溶解性。
性质出色，无味、无臭、防水性良好，多用作磁带、磁卡粘合剂，软饮料罐、防水胶带涂层剂，及多种涂料、墨水、粘结剂等。

INDEX

02 Characteristics of SOLBIN
SOLBIN的特性
02 Grade diagram of SOLBIN
SOLBIN的分级体系
03 Types of SOLBIN (Application list)
SOLBIN的种类（用途一览）
05 Properties of SOLBIN (Properties table)
SOLBIN的物理性质（物理性质表）
07 Solubility in organic solvent
对有机溶剂的溶解性
09 Solution viscosity (viscosity with ethyl acetate and MEK)
溶液粘度（醋酸乙酯，MEK的粘度曲线）
11 Resistance (acid, alkali, hot water, alcohol, water, salt water)
多种耐/抗性（酸、碱、热水、乙醇、水、盐水）
11 Base material adhesion
基材密合性
12 Compatibility with other resins
与其它树脂的相溶性
13 Ink color developability
墨水显色性
14 Ink flowability and stability over time
墨水流动性、经时稳定性
15 Special functional grade
特殊功能性产品分类介绍
15 CLL3 Eco solvent system
CLL3生态溶剂系统
16 Metal adhesion of M5 & M5R
M5 & M5R金属密合性
17 Typical applications for SOLBIN
SOLBIN的一般使用示例

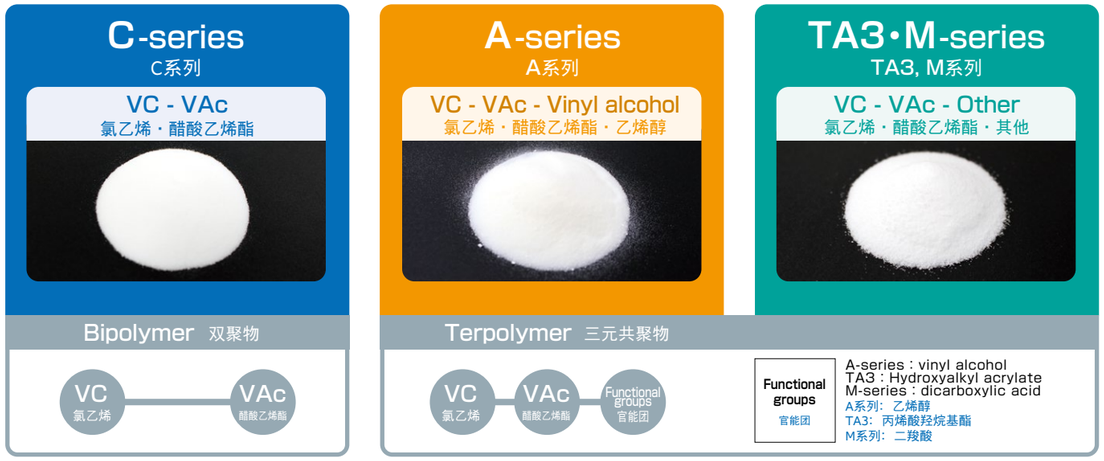
Shin-Etsu
Nissin Chemical Industry Co.,Ltd.

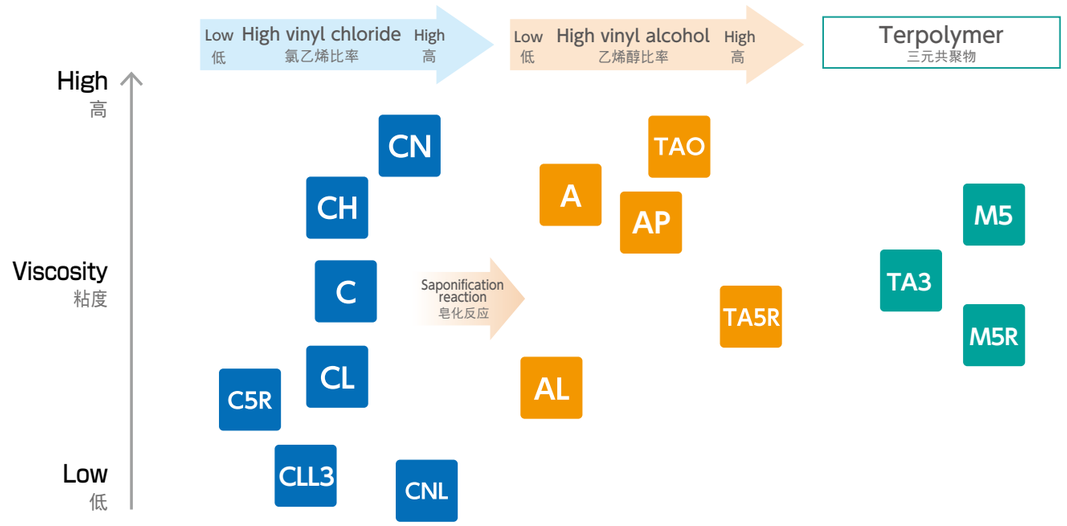
Characteristics of SOLBIN
SOLBIN的特性

SOLBIN is a copolymer resin prepared from vinyl chloride and vinyl acetate in addition to other elements, and has the following characteristics:
SOLBIN是氯乙烯与醋酸乙烯酯等的共聚合树脂,具有以下特征:

1. It dissolves in organic solvents such as ketone and ester.
遇酮、酯等有机溶剂溶解。
2. It forms an odorless, tasteless, and transparent film.
无味、无臭,可形成透明涂膜。
3. It is highly resistant to chemicals such as acids, alkalis, and salt water.
对酸、碱、盐水,呈出色的抗耐性。
4. It forms a coating film highly resistant to water.
可形成强耐水性涂层薄膜。
5. It is highly compatible with other resins such as urethane and melamine resins.
与聚氨酯树脂、密胺树脂有出色的相溶性。
6. Its coating films are thermoplastic and heat-sealable.
其涂层薄膜具有热塑性，可热封。
7. Its coating films are fire-retardant and self-extinguishing.
其涂层薄膜具有阻燃性和自熄性。
8. Products with hydrophilic groups favorably disperse inorganic pigments such as magnetic powder.
含亲水基的产品能有效分散磁粉等无机颜料。
9. Products with hydroxyl groups react with isocyanate to form cross-links.
含氢氧基的产品与异氰酸酯基反应形成架桥。

Grade diagram of SOLBIN
SOLBIN的分级体系





SOLBIN

Product Types | 产品种类

Nissin Chemical Industry Co.,Ltd.

Application list
用途一览

Coating & Paint
涂层/涂装

Strong chemical resistance, water resistance allows SOLBIN to be used in variousfields of coating/painting. SOLBIN can also be added into printing media's receiving layer (including Media for Solution-type Ink Jet Ink, and Thermal Sublimation Media). It can help significantly improve the absorption of ink which leads to better color density and resolution.

SOLBIN树脂的化学耐性和防水性极强，可用于涂层/涂装工艺，也可用于印刷介质的接收层中（包括溶剂型喷墨介质或热转印墨印刷介质）。能强力吸收墨水，令印刷成色更均匀鲜艳。

Printing ink
印刷墨水

SOLBIN has excellent pigment dispersibility and good color developability for ink.
It also has excellent re-dissolubility during printing and is suitable for continuous printing and high speed printing with various printing methods.

SOLBIN树脂，颜料分散性能优异，油墨显色性良好。
印刷过程中再溶解性能优异，适用于连续印刷及高速印刷等多种印刷方式。

Adhesive
粘合剂

SOLBIN coating films are thermoplastic and heat-sealable. It can be wildly used as a binder in PVC resin based products.
The dicarboxylic acid type (SOLBIN M series) also strongly adheres to metals and aluminum.

SOLBIN树脂涂层薄膜具热塑性，可热封，可广泛用作PVC聚氯乙烯树脂制品的粘合剂。
二羧酸型SOLBIN树脂（SOLBIN M系列）对金属和铝制品有很强的附着力。

Grade 产品型号		Coating & Paint 涂层/涂装								
		Ink jet printing paper & film 喷墨打印纸/薄膜	Heat transfer paper & film 热转印纸/薄膜	Wood coating 木器涂料	Can coating 易拉罐涂层	Marine paint 船舶漆	Strippable paint 可剥离涂料	Magnetic card 磁性材料卡	UV curable paint 紫外线固化涂料	Video, audio and data storage tape 视频、音频和数据存储磁带
C-series C系列	C		●		●					
	CL		●		●				●	
	CLL3									
	CH						●		●	
	CN		●				●			
	CNL									
	C5R	●								
A-series A系列	A			●	●	●		●		
	AP									
	AL			●	●	●		●		
	TA5R									●
	TAO									●
TA3,M-series TA3，M系列	TA3	●		●						●
	M5				●					
	M5R				●					

Grade 产品型号		Printing Ink 印刷墨水						Adhesive 粘合剂			
		Gravure printing ink 凹印墨水	Screen painting ink 丝网印刷墨水	Ink jet printing ink 喷墨印刷墨水	Pigment preparation 颜料制备	Electrically conductive paste. & ink 导电粘合剂和油墨	Carbon dispersion 碳分散	Adhesive or Primer for aluminum 铝制品粘合剂/底漆	Adhesive or Primer for metal 金属粘合剂/底漆	Adhesive for PVC PVC聚氯乙烯粘合剂	Heat seal lacquer 热密封粘合剂
C-series C系列	C	●	●		●					●	●
	CL	●	●	●	●						●
	CLL3			●							
	CH	●	●							●	
	CN	●	●							●	
	CNL	●	●								
	C5R	●		●							●
A-series A系列	A	●	●		●	●					●
	AP	●									
	AL	●	●		●	●					●
	TA5R	●					●				
	TAO	●				●	●				
TA3,M-series TA3，M系列	TA3	●	●	●		●					
	M5	●	●	●				●	●	●	●
	M5R	●	●					●	●	●	●

SOLBIN

Properties of SOLBIN | 产品物理性质

Shin-Etsu
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Properties table
物理性质表

Grade 产品型号		Composition 组成成分 VC 氯乙烯	VAc 醋酸乙烯酯	Other 其他	Acid value 酸性值	Hydroxyl value 水酸基量	Degree of polymerization 聚合度	K-value (calculated value) K值（計算値）	Molecular weight 分子量 Mw	Mn	Mw/Mn	Glass transition temperature (Tg) 玻璃化转变温度	Viscosity 粘度	Median size 粒子径	Density 密度 Bulk density 体积密度	Absolute density 真密度	Features 特性	Grade 产品型号
		% by weight			mg KOH/g	mg KOH/g	—	—	(×10⁴)	(×10⁴)	—	℃	mPa·s	μm	g/cm³			
C-series C系列	C	87	13	—	—	—	420	48	7.5	3.6	2.1	70	150	130	0.8	1.31	Standard grade of bipolymer 二元共聚物的标准等级	C
	CL	86	14	—	—	—	300	42	5.0	2.5	2.0	68	60	160	0.7	1.31	Low viscosity type, good solubility 低粘度型、溶解性良好	CL
	CLL3	83	17	—	—	—	260	39	3.7	1.4	2.6	66	30	170	0.7	1.31	Specialized type for inkjet 喷墨专用型	CLL3
	CH	86	14	—	—	—	650	57	9.5	5.0	1.9	70	700	90	0.6	1.31	High viscosity type, good heat resistance / weather resistance 高粘度型、耐热性、耐候性	CH
	CN	89	11	—	—	—	750	60	9.9	4.2	2.4	73	40 *	110	0.5	1.32	High vinyl chloride content type, high viscosity, high coating film strength 高氯乙烯型、高粘度、涂膜强度大	CN
	CNL	90	10	—	—	—	200	33	3.5	1.6	2.2	69	30	90	0.7	1.31	Low viscosity type of CN, good solubility CN的低粘度型、溶解性良好	CNL
	C5R	79	21	—	—	—	350	45	5.8	2.6	2.2	64	60	100	0.6	1.25	Specialized type in solubility and flexibility 溶解性、柔软性特定型	C5R
A-series A系列	A	92	3	5	—	70	420	48	7.3	3.5	2.1	74	220	150	0.7	1.32	Standard grade of saponified type, good compatibility with various resins 皂化系的标准等级，与各种树脂的相溶性良好	A
	AP	92.5	1	6.5	—	83	430	49	8.2	2.9	2.8	75	210	140	0.7	1.32	High vinyl alcohol content type 高乙烯乙醇组分型	AP
	AL	92.5	2.5	5	—	64	300	42	5.3	2.7	1.9	74	70	130	0.7	1.31	Low viscosity type 低粘度型	AL
	TA5R	87.5	1	11.5	—	146	300	42	6.1	2.9	2.1	75	130	100	0.7	1.29	High vinyl alcohol content type, specialized type in dispersibility/solubility 高乙烯乙醇组分型、分散性/溶解性特定型	TA5R
	TAO	91	2	7	—	89	360	45	4.6	2.0	2.3	76	230	150	0.7	1.29	Good dispersibility in pigments and magnetic powder 对颜料/磁粉的分散性良好	TAO
TA3,M-series TA3，M系列	TA3	83	4	13	—	56	350	45	6.4	3.2	2.0	64	80	190	0.7	1.29	Low viscosity type with good pigment dispersibility/thermal stability 颜料分散性/热稳定性良好、低粘度型	TA3
	M5	85	14	1	5.8	—	430	49	6.9	3.3	2.1	70	130	150	0.7	1.31	Good adhesion to metal and aluminum 对金属或铝制品的密合性良好	M5
	M5R	77	22	1	8.7	—	390	47	7.7	3.2	2.4	64	70	110	0.5	1.25	M5 with high vinyl acetate content, good heat sealability at low temperatures M5的高醋乙烯组分型，低温区域的热封性良好	M5R

Note : The values in the table are representative values, nor standard values.
注：此表格中的数值为代表值，并非标准值。

Viscosity : Resin concentration 20wt%(*10wt%), Solvent MIBK/toluene=1/1, Measured by type B viscometer(25℃)
粘度：树脂浓度;20wt%(*10wt%)、溶剂;MIBK/甲苯=1/1　使用B型粘度计测量(25℃)

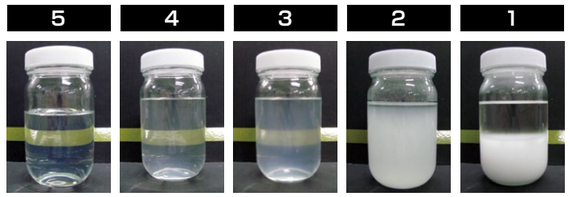
Composition Other : A-series vinyl alcohol, TA3 Hydroxyalkyl acrylate, M-series dicarboxylic acid
其他组成成分：A系列乙烯醇，TA3丙烯酸羟烷基酯，M系列二羧酸

SOLBIN

Properties of SOLBIN | 产品物理性质

Nissin Chemical Industry Co.,Ltd.

Solubility in organic solvent
在有机溶剂中的溶解度



Dissolution conditions: solid content 20 wt%, solvent 50°C x 1 hr.
Haze measurement conditions: After dissolution, 25°C x 1 hr, measured in 50 mm cell
*1: Solid content 10 wt%.
*2: Dissolved in ethyl acetate at 50°C for 2 hrs, followed by addition of IPA, and stirred at 50°C for 1 hr.

溶解条件：固体组分含量20 wt% 溶剂MIBK/Toluene比例为1:1，50℃下溶解1小时。
浊度测定条件：溶解后，在25°C下静置1小时，用50 mm比色皿进行测定。
※1：固体组分含量10wt%。
※2：在醋酸乙酯中，于50℃下溶解2小时，加入IPA，于50℃下搅拌1小时。

Solvent 溶剂	CAS No. CAS编号	C-series C系列							A-series A系列					TA3,M-series TA3, M系列		
		C	CL	CLL3	CH※1	CN※1	CNL	C5R	A	AP	AL	TA5R	TAO	TA3	M5	M5R
Alcohol 醇类																
Methanol 甲醇	67-56-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Isopropanol 异丙醇	67-63-0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
n-butanol 正丁醇	71-36-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ketone 酮类																
Acetone 丙酮	67-64-1	5	5	5	5	5	5	5	4	3	4	5	5	5	5	5
Methyl ethyl ketone 甲基乙基酮	78-93-3	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5
Methyl isobutyl ketone 甲基异丁基酮	108-10-1	5	5	5	5	5	4	5	4	5	5	5	5	5	5	5
Cyclohexanone 环己酮	108-94-1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Isophorone 异佛尔酮	78-59-1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Ether 醚																
Tetrahydrofuran 四氢呋喃	109-99-9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Glycol ether 乙二醇醚																
Ethylene glycol monomethyl ether 乙二醇单甲醚	109-86-4	2	2	2	1	1	2	4	2	2	3	3	3	3	2	2
Ethylene glycol monoethyl ether 乙二醇单乙醚	110-80-5	2	2	2	1	1	2	2	2	2	3	2	2	2	2	2
Ethylene glycol monobutyl ether 乙二醇单丁醚	111-76-2	1	1	2	1	1	1	1	2	2	2	2	1	2	1	2
Diethylene glycol n-butyl ether 二乙二醇正丁醚	112-34-5	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2
Dipropylene glycol methyl ether 二丙二醇甲醚	34590-94-8	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2
Propylene glycol 1-monomethyl ether 丙二醇1-单甲醚	107-98-2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2

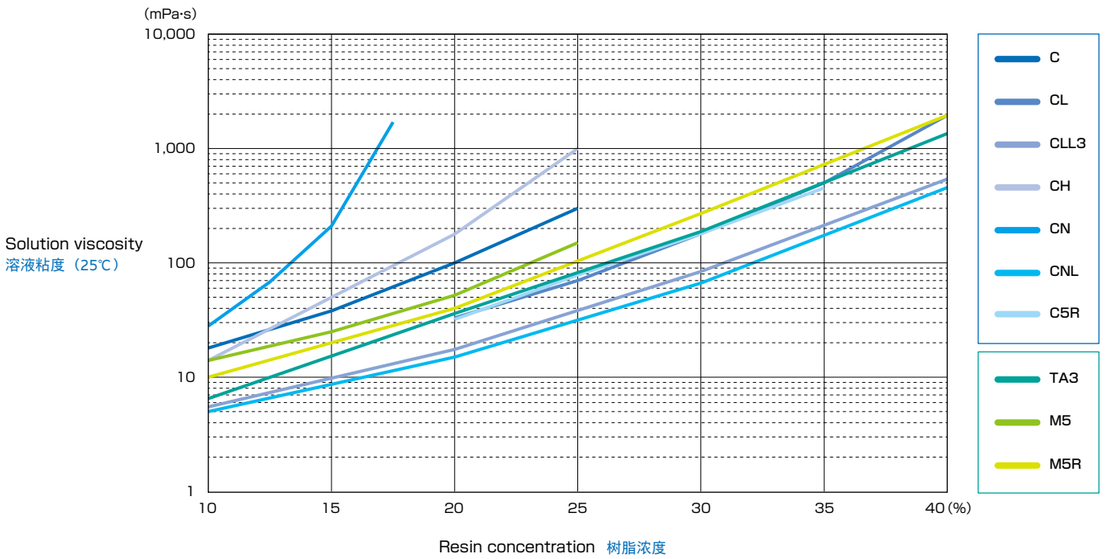
Score 判定		Criteria 数值判定	Conclusion 判断标准
5	Soluble 溶解	Haze value 0～25% 浊度0～25%	Can be used by itself. 可单独使用。
4	Mostly soluble 部分溶解	Haze value 26～40% 浊度26～40%	Can be used by itself. but transparency is further improved by mixing with score 5 solvents. 可单独使用，但与等级5的溶液混合使用，透明度会进一步提高。
3	Partially soluble 部分溶解	Haze value 41～100% 浊度 41～100%	Difficult to use it by itself. However, by mixing in score 4 or 5 solvents as well as lowering Solbin content can improve its solubility. 不易单独使用。但混入等级4或5的溶剂，或者降低SOLBIN含量，可帮助提高溶解度。
2	Swell 膨润	Swell (Including white turbidity) 膨润（也包括白浊）	Difficult to use it by itself. but can be used by lowering the solid content or by mixing with score 5 solvents. 不易单独使用，但可以降低固体组分或与等级5的溶液混合使用。
1	Insoluble 不溶解	Insoluble 不溶解	Insoluble Cannot be used by itself. Solvents with a score of 5 or higher must be mixed at a ratio of 90% or higher for dissolution. 不可单独使用。若等级5以上溶剂的使用比例达到90%以上，则可以溶解。

Solvent 溶剂	CAS No. CAS编号	C-series C系列							A-series A系列					TA3,M-series TA3, M系列		
		C	CL	CLL3	CH※1	CN※1	CNL	C5R	A	AP	AL	TA5R	TAO	TA3	M5	M5R
Aromatic 芳香																
Toluene 甲苯	108-88-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Xylene 二甲苯	1330-20-7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Linear hydrocarbon 线性烃																
T-SOL 100		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Ester 酯																
Methyl acetate 乙酸甲酯	79-20-9	5	5	5	5	4	3	5	3	3	3	4	4	5	5	4
Ethyl acetate 乙酸乙酯	141-78-6	5	5	5	5	5	3	5	3	5	4	5	4	5	5	4
Propyl acetate 乙酸丙酯	109-60-4	5	5	5	5	5	3	5	3	4	4	5	5	5	5	5
Butyl acetate 乙酸丁酯	123-86-4	5	5	5	5	5	3	5	3	4	4	5	5	5	5	5
Ethylene glycol monoethyl ether acetate 乙二醇单乙醚乙酸酯	111-15-9	2	3	3	3	2	3	5	2	2	3	4	3	5	2	4
Ethylene glycol mono n-butyl ether acetate 乙二醇单正丁基醚乙酸酯	112-07-2	3	3	2	3	2	3	5	2	2	3	4	3	5	2	3
Diethylene glycol monoethyl ether acetate 二乙二醇单乙醚乙酸酯	112-15-2	3	3	2	3	2	3	5	2	2	3	4	3	3	2	3
Propylene glycol methyl ether acetate 丙二醇甲醚乙酸酯	108-65-6	2	3	5	5	3	3	5	3	3	3	4	2	5	2	5
γ-butyrolactone γ丁内酯	96-48-0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Diisodecyl phthalate 邻苯二甲酸二异癸酯	26761-40-0	1	3	2	1	1	2	2	2	2	2	2	1	1	2	2
Diisononyl phthalate 邻苯二甲酸二异壬酯	28553-12-0	1	2	2	1	1	2	2	2	2	2	2	1	2	2	2
Chlorinated hydrocarbon 氯化烃																
Ethylene chloride 乙烯氯化物	107-06-2	5	5	5	5	5	5	5	3	3	3	3	4	5	3	3
Other 其他																
Ethyl acetate/Isopropanol = 8/2 mix ※2 乙酸乙酯/异丙醇= 8/2混合物※2		5	5	5	5	3	3	5	3	3	5	5	5	5	5	5

Solution viscosity
溶液粘度

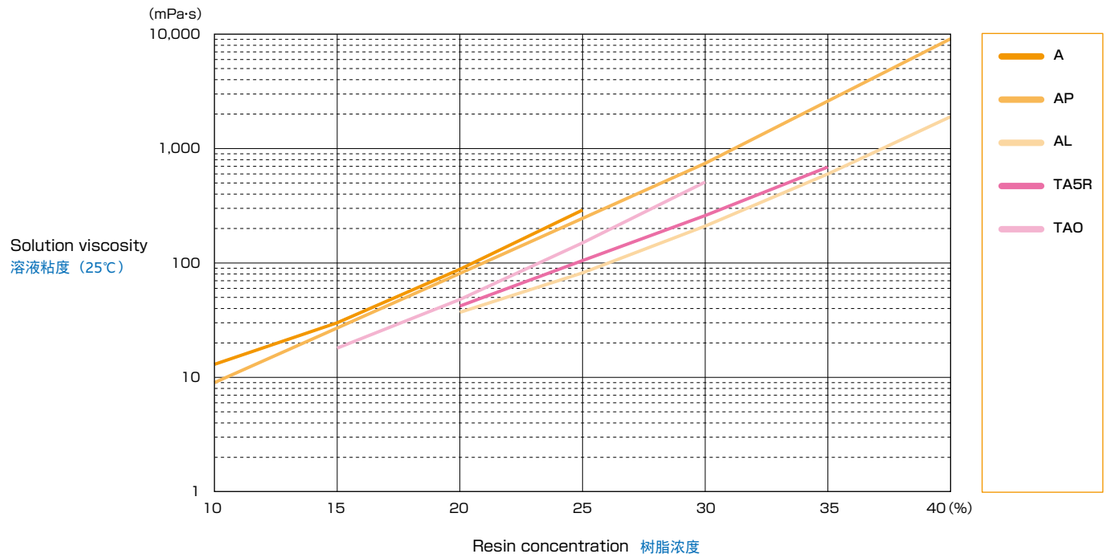
Solution viscosity with methyl ethyl ketone 溶液粘度（MEK的粘度曲线）

C-series C系列 | TA3,M-series TA3, M系列



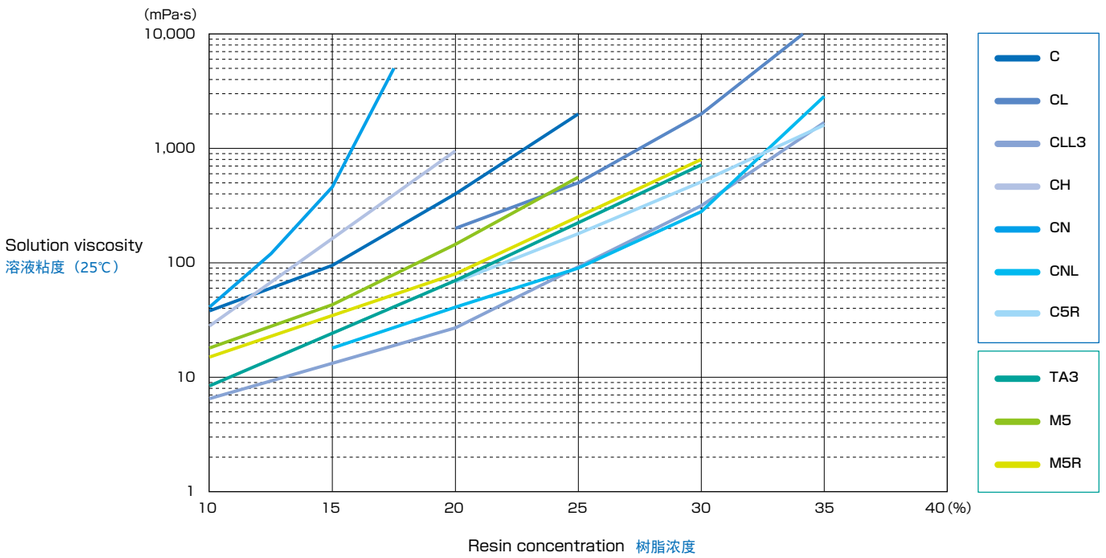
Solution viscosity with methyl ethyl ketone 溶液粘度（MEK的粘度曲线）

A-series A系列



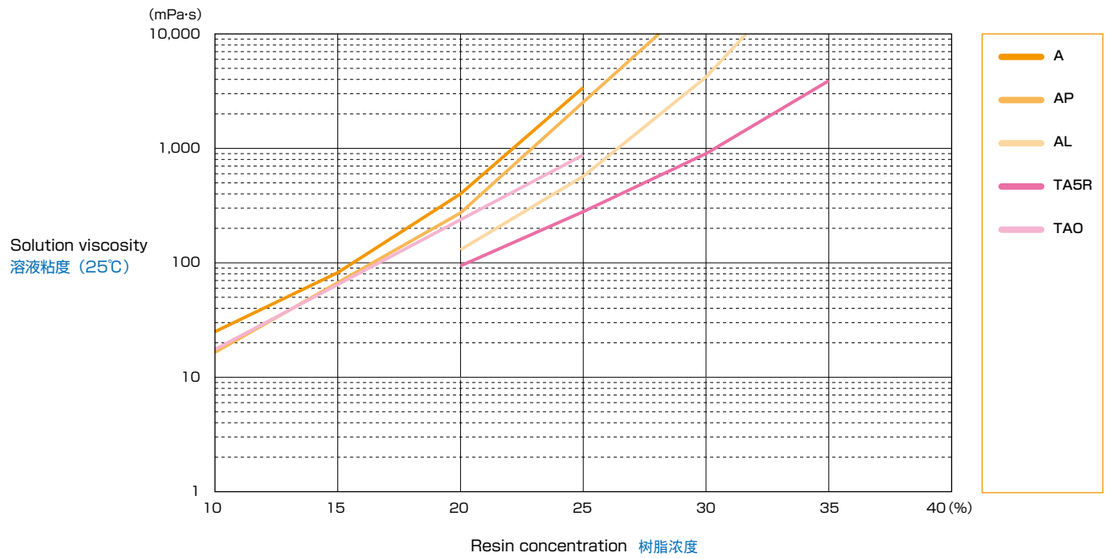
Solution viscosity with ethyl acetate 溶液粘度（醋酸乙酯）

C-series C系列 | TA3,M-series TA3, M系列



Solution viscosity with ethyl acetate 溶液粘度（醋酸乙酯）

A-series A系列



SOLBIN

Properties of SOLBIN | 产品物理性质

Nissin Chemical Industry Co.,Ltd.

Various resistances
多种耐性

Item 耐性类型	Chemical 耐性化学物	Temperature 耐性温度	Immersion time 浸渍耐性时间	C	A	TA3	M5
Acid resistance 耐酸性	10% HNO_3 10% HNO_3	23℃ 23℃	168 hrs 168小时	●	●	●	●
Alkali resistance 耐碱性	10% NaOH 10% NaOH	23℃ 23℃	168 hrs 168小时	●	●	●	●
Hot water resistance 耐热水性	Pure water 纯水	77℃ 77℃	45 min 45分钟	●	▲	●	●
Alcohol resistance 耐乙醇性	65% ethanol water 65%乙醇水	23℃ 23℃	168 hrs 168小时	●	●	●	●
Water resistance 耐水性	Pure water 纯水	23℃ 23℃	168 hrs 168小时	●	●	●	●
Saltwater resistance 耐盐水性	5% artificial seawater 5%人工海水	23℃ 23℃	168 hrs 168小时	●	●	●	●

Coating film resistance condition 涂层薄膜耐性条件

Measurement method：测量方法
After immersing SOLBIN coating films under each condition, check for whitening of the coating films.
在各种条件下浸泡SOLBIN树脂涂层薄膜后，涂层薄膜变白。

Criteria 判定标准		
● No change 无变化：○	▲ Slightly whitened 微白化：△	✕ Whitened 白化：×

Coating film creation conditions 涂膜制作条件

Dissolution conditions：20 wt% MEK 50° C x 45 min
Coating conditions：Applicator 6 mil (wet-30 μm)
Drying condition：120° C x 30 min
After drying, coating film is peeled off and immersed under various conditions.
溶解条件：20 wt% MEK 50℃×45 min
涂布条件：涂布器 6 mil（wet-30 μm）
干燥条件：120℃×30 min
基材 脱模纸 ※干燥后剥离涂膜，在各条件下浸渍

Base material adhesion
基材密合性

Property evaluation conditions 物理特性测定条件

Measurement method：Tape peeling test
测定方法： 胶带剥离试验

Criteria 判定标准	
● No peeling 未剥离：●	✕ Partially peeled off 部分剥离：×
Tape application position 胶带粘贴位置	Tape application position 胶带粘贴位置

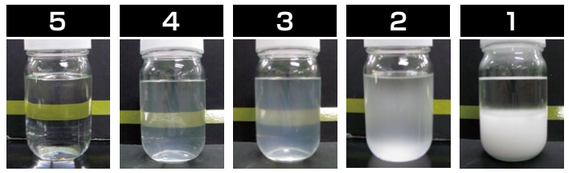
Coating film creation conditions 涂膜制作条件

Dissolution conditions：20 wt% MIBK/TOL 50°C x 45 min
Coating conditions：Bar coater No. 22(wet film 50.3 micron, dry film = 10.1 g/m²)
Drying conditions：50°C x 1 hr
溶解条件：20 wt%MIBK/TOL 50°C×45 min
涂布条件：棒涂机No. 22 湿膜 50.3 micron, 干膜 10.1 g/m²
干燥条件：50°C×1 hr

Base material 基材	C	A	TA3	M5
Polyvinyl chloride PVC	●	●	●	●
Polyethylene terephthalate PET	●	●	●	●
Acrylonitrile Butadiene Styrene ABS	●	●	●	●
Aluminium 铝	✕	✕	✕	●
Steel(SUS−304) 钢	✕	✕	✕	●
Polycarbonate 聚碳酸酯	●	●	●	●

Base material 基材	C	A	TA3	M5
Glass 玻璃	✕	●	✕	●
Polyvinylidene chloride 聚偏二氯乙烯	●	●	●	●
Polymethyl methacrylate 有机玻璃	●	●	●	●
Mortar 砂浆	✕	●	●	●
Craft Paper 牛皮纸	●	●	●	●
Wood 木材	●	●	●	●

Compatibility with other resins
与其他树脂的相溶性



Conditions：Dissolving conditions: Solid content 20 wt%, solvent MIBK/Toluene = 1/1, dissolved at 50° C x 1 hr.
Compatibility condition：: SOLBIN solution and resin solution are mixed 1:1 and stirred thoroughly.
Haze measurement conditions：After dissolution, sample is allowed to stand at 25° C x 1 hr and measured in a 50 mm cell.
*9: Solid content 10 wt%, SOLBIN : resin = 7:3
溶解条件：固体组分含量20 wt% 溶剂MIBK/Toluene比例为1:1,50℃下溶解1小时。
相溶条件：将SOLBIN溶液和树脂溶液按1:1混合，充分搅拌。
浊度测定条件：溶解后，在25℃下静置1小时，用50 mm比色皿进行测定。
※9：固体组分10 wt%、SOLBIN：树脂＝7:3

	Score 判定	Criteria 数值判定
5	Soluble 溶解	Haze value 0-25% 浊度范围0～25%
4	Mostly soluble 部分溶解	Haze value 26-40% 浊度范围26～40%
3	Partially soluble 部分溶解	Haze value 41-100% 浊度范围41～100%
2	Swell 膨润	Swell (Including white turbidity) 膨润（也包括白浊）
1	Insoluble 不溶解	Insoluble 不溶解

Resins 树脂		Chemical Characterization 化学特性	C	A	TA3	M5
Alkyd resins 醇酸						
ALUKIDIR 1334-EL	*1	Medium to long oil alkyd resin 中长油醇酸树脂	2	5	2	2
ALUKIDIR 1307-60-EL	*1	Short oil alkyd resin 短油醇酸树脂	2	5	5	2
Melamine resins 三聚氰胺树脂						
AMIDIR P-138	*1	Butylated urea resin 丁基化尿素树脂	5	5	5	5
AMIDIR G-821-60	*1	Butylated melamine resin 丁基化三聚氰胺树脂	5	5	5	5
AMIDIR TD-126	*1	Butylated benzoguanamine resin 丁基化苯并胍胺树脂	5	5	5	5
Epoxy resins 环氧						
JER 828	*2	Medium viscosity liquid bisphenol A/epichlorohydrin epoxy rein 双酚A型环氧树脂	5	5	5	5
JER 1001	*2	Solid bisphenol A/epichlorohydrin epoxy resin 双酚A型环氧树脂	5	5	5	5
Urethane resins 聚氨酯						
NIPPOLAN 3124	*3	Solution type polyurethane resin 溶液型聚氨酯树脂	5	5	5	5
TA24-530E	*4	Butylated melamine resin 丁基化三聚氰胺树脂	5	5	5	5
TA24-548A	*4	Butylated melamine resin 丁基化三聚氰胺树脂	5	5	5	5
Acryl resins 丙烯酸						
DEGALAN P24	*5	Polyacrylate resin based on n-buthylmethacrylate and methylmethacrylate 丙烯酸甲酯 - 甲基丙烯酸丁酯 - 共聚物	5	5	5	5
DEGALAN PM555	*5	Organic dispersion of copolymers based on methacrylacidester and olefi nes 聚甲基丙烯酸酯，聚烯烃	5	5	5	5
Dianal BR-87	*6	Polyacrylate resin based on methylmethacrylate 聚甲基丙烯酸甲酯	5	5	5	5
Dianal BR-113	*6	Polyacrylate resin based on methylmethacrylate 聚甲基丙烯酸甲酯	5	5	5	5
Joncryl 819	*7	Carboxyl acrylic resin 丙烯酸共聚物树脂	2	5	5	2
EVA EVA						
EVAFLEX 40LX *9	*8	Ethylene-vinyl acetate copolymer 乙烯－醋酸乙烯基共聚树脂	3	5	3	3
EVAFLEX 45LX *9	*8	Ethylene-vinyl acetate copolymer 乙烯－醋酸乙烯基共聚树脂	5	4	5	4

*1：DIC Corporation *2：Mitsubishi Chemical Corporation 三菱化学株式会社 *3：Tosoh Corporation 东曹株式会社 *4：Showa Denko Materials Co., Ltd. 昭和电工材料株式会社
*5：Evonik Industries AG *6：Mitsubishi Chemical Corporation 三菱化学株式会社 *7：BASF SE *8：Dow-Mitsui Polychemicals Co., Ltd.

SOLBIN

Properties of SOLBIN | 产品物理性质

Nissin Chemical Industry Co.,Ltd.

Ink color developability
墨水显色性

Addition of SOLBIN reduces unevenness in application and is expected to produce a uniform coating film with good color developability.
添加SOLBIN树脂，可减轻涂布不均，令涂膜显色均匀良好。

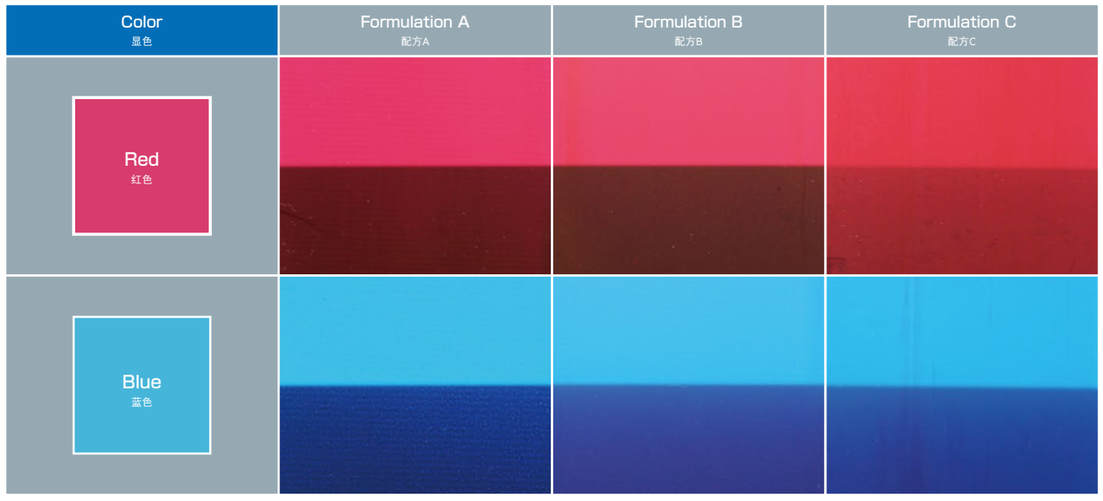
Example of ink formulation 墨水调配例

SOLBIN TA5R is soluble in eco-friendly weak solvents and exhibits good color developability.
SOLBIN TA5R树脂，在环保弱溶剂系溶媒中可溶，显色性良好。

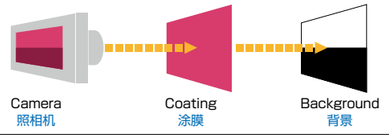
Ingredients 调配明细	Mixing ratio (wt%) 配比(wt%)		
	Formulation A 配方A	Formulation B 配方B	Formulation C 配方C
Pigment 颜料	10	10	10
Ethyl acetate 醋酸乙酯	59	59	59
Isopropyl alcohol 异丙醇	25	25	25
SOLBIN TA5R	6	2	0
Urethane resin 聚氨酯树脂	0	4	6

Ink color developability of coating film 涂层薄膜墨水显色性

The coating film, which has excellent coloring properties, is vivid and transparent without making the background cloudy.
该涂层薄膜着色性能良好，可令涂层背景生动、透明。



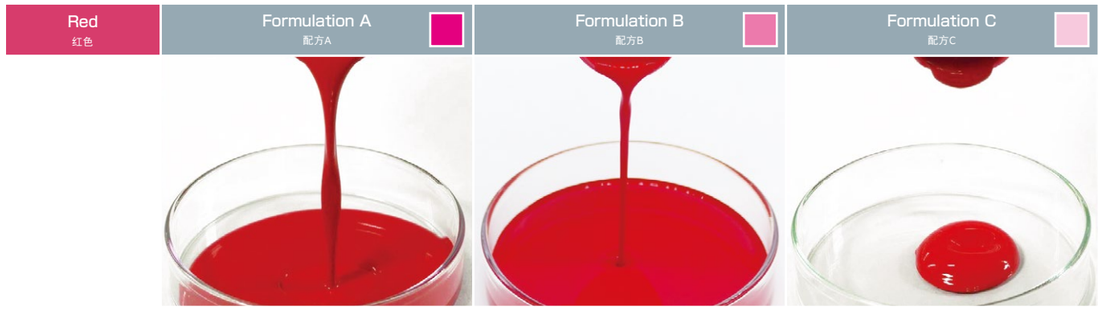
Photography conditions 拍摄条件
The camera, coating film, and background (black-and-white paper) were placed at intervals and photographs were taken.
Color development was confirmed by the appearance of the boundary between white and black.
照相机、涂层薄膜及背景（黑白纸）间隔放置，拍摄照片
通过白色和黑色间出现界限确认显色。

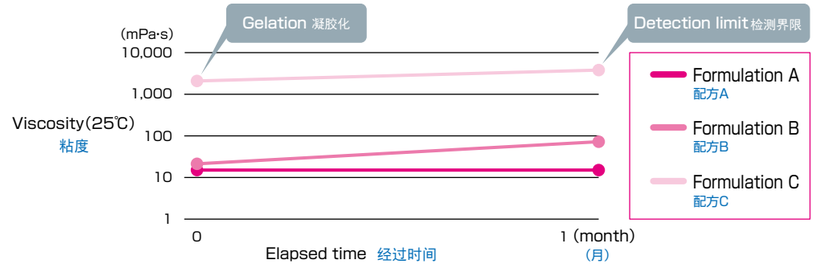


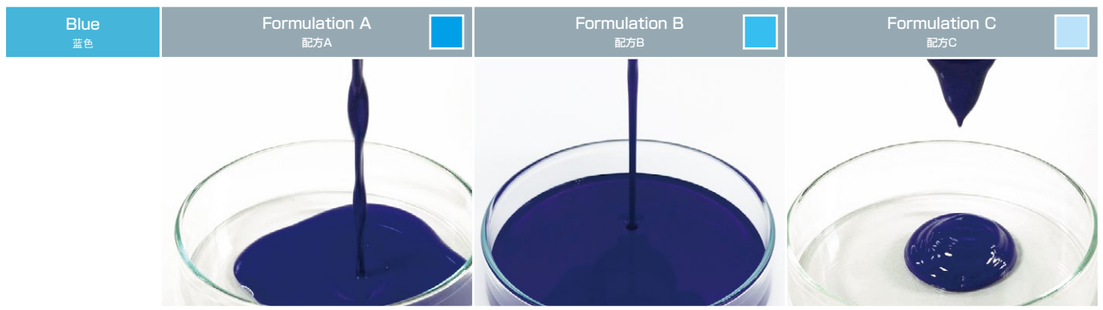
Coating film creation conditions
涂膜制作条件
Coating process : No. 3 bar coater
Base material : PET
Drying : Air-drying
涂布：No. 3棒涂机
基材：PET 干燥：风干

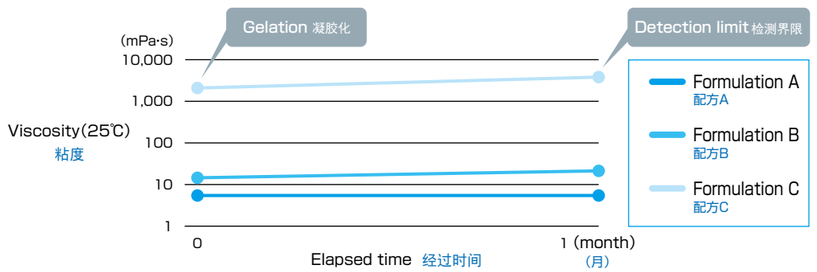
Ink fluidity and stability over time
墨水流动性和经时稳定性

SOLBIN prevents pigment agglomeration and is expected to provide long-term storage of inks.
SOLBIN树脂，可防止颜料凝结，令墨水可实现长久保存。









SOLBIN

Special functional grade introduction | 特殊功能性产品分类介绍

Nissin Chemical Industry Co.,Ltd.

SOLBIN CLL3

Specialized type for inkjet
喷墨专用型

SOLBIN CLL3 is a grade with excellent solubility in eco-solvents in addition to the pigment dispersion characteristics of PVC.

SOLBIN CLL3树脂具有氯乙烯特有的颜料分散性，
在环保型溶剂中溶解性良好。

Filter passability 过滤器通过性

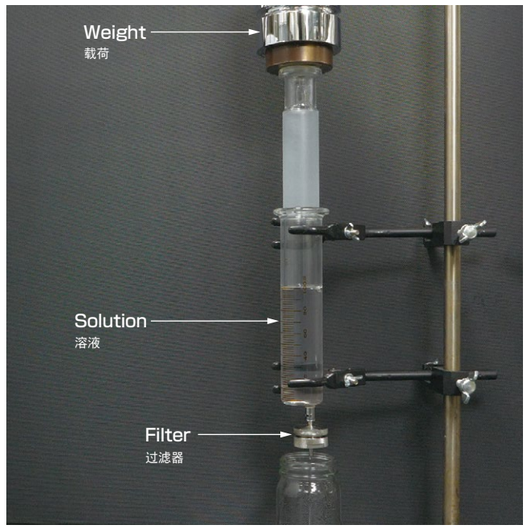
SOLBIN CLL3 is suitable for use in fields where filter clogging is a serious concern, as it can pass through the filter stably without clogging, even with eco solvents.

SOLBIN CLL3 树脂适用于过滤器堵塞严重情况，能稳定通过过滤器，不发生堵塞，包括使用生态溶剂。

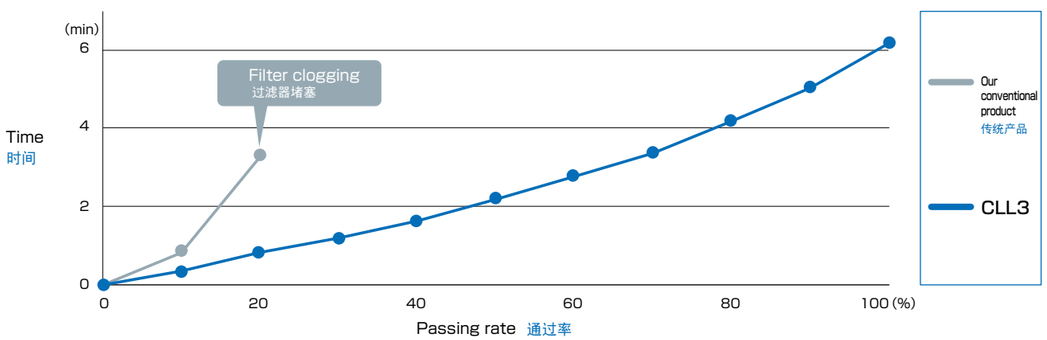
Evaluation method 测定方法	Time for 100 mL of solution to pass through the filter is measured. 测量100 mL的溶液通过过滤器的时间。
Filter pore size 过滤器孔径	1μm
Load 载荷	4kgf
Solution temperature 溶液温度	25℃

Dissolution condition 溶解条件	
Solid content 固体组分	5wt%
Solvent 溶剂	DEGEME (Diethylene glycol ethylmethyl ether) DEGEME CAS No. 1002-67-1 CAS No. 1002-67-1
Temperature 温度	60℃ × 2hr

Measurement filter
测量过滤器



Filter passability (1μm) 过滤器通过性（1μm）



SOLBIN M5&M5R

Metal adhesion type
金属密合型

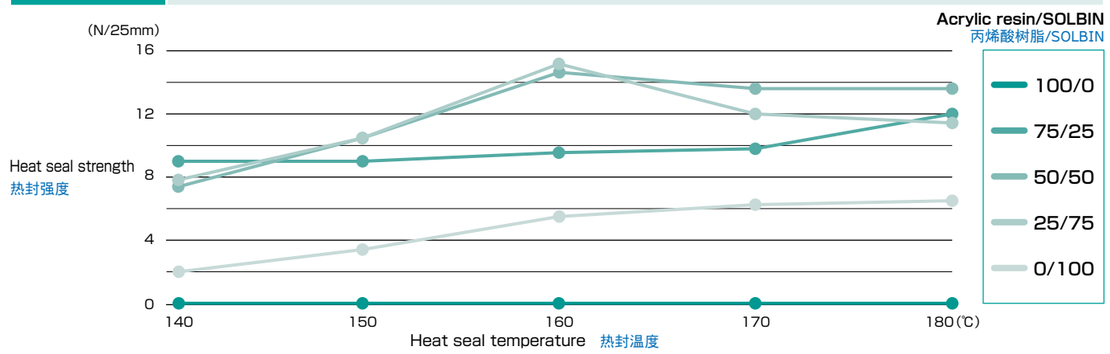
SOLBIN is a thermoplastic resin that exhibits heat-sealing properties.
SOLBIN M5 & M5R containing acid groups are also expected to adhere to metals such as aluminum foil.

SOLBIN是热塑性树脂，具有热封性。
SOLBIN M5& M5R树脂产品含酸性基团，可与铝箔等金属密合

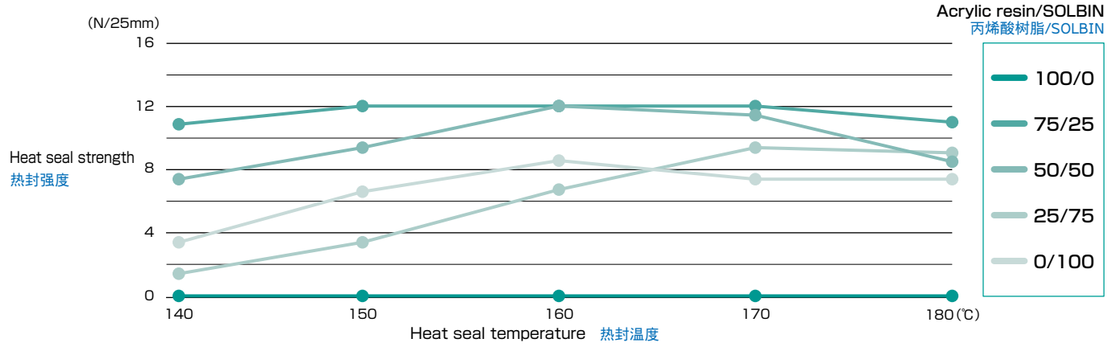
Heat seal strength of M-series/acrylic resin combination system SOLBIN M系列树脂/丙烯酸树脂组合热封强度

Measurement conditions 测定条件			
Dissolution 溶解	20wt%MEK	Heat seal 热封	Temperature x 0.25 MPa x 0.5 s 温度*0.25 MPa*0.5 s
Base material 基材	Alu(aluminum foil) : 1N30 O (0.030mm) Alu: 1N30 O (0.030 mm) Polyvinyl chloride : VSS1202 PVC: VSS1202	Resin 树脂	SOLBIN M5, M5R SOLBIN M5, M5R Acrylic resin : Dianal BR-117(Mitsubishi Chemical) 丙烯酸 三菱化学公司 BR-117
Application 涂布	Bar coater #8 dry 3.6 g/m² 棒涂机#8 dry 3.6 g/m²	Strength unit 强度单位	N/25mm
Drying 干燥	180℃ x 30s	Peeling conditions 剥离条件	T type 200 mm/min T型200 mm/min

M5 Alu-PVC Heat seal strength 丙烯酸 Alu－PVC热封强度



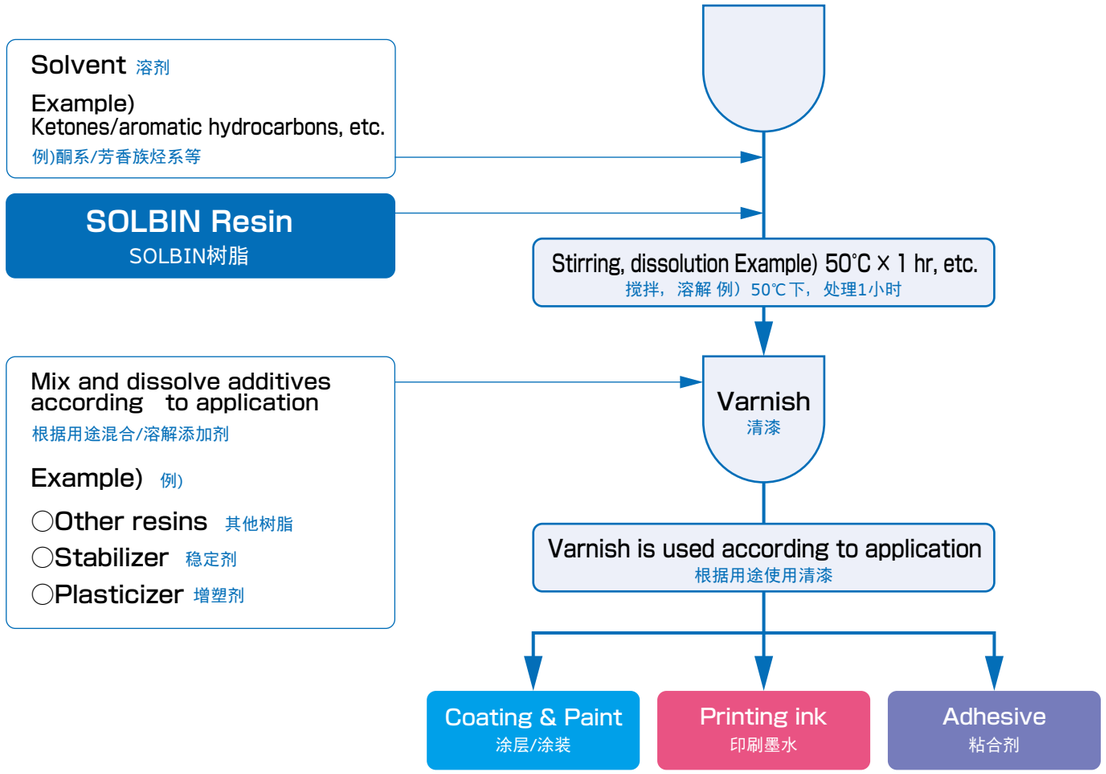
M5R Alu-PVC Heat seal strength 丙烯酸 Alu－PVC热封强度



SOLBIN

Common applications of SOLBIN | SOLBIN的一般使用示例

Varnish preparation
清漆制作



Representative stabilizers used with SOLBIN
结合SOLBIN树脂的典型稳定剂

Base 基础成分	Trade name 产品名称
Tin 锡	TVS #8102*1 , TVS #8831*1 , TVS #8813*1 , Adekastab 465E*2 , Adekastab OT-9*2
Metal salt 金属盐	adekastab SC-308E*2 , adekastab AC-290*2 , adekastab AC-285*2
Epoxy 环氧树脂	JER 828*3 , JER 834*3 , adekasizer O-130P*2 , adekasizer O-180A*2

*1 : Nitto Kasei Co.Ltd. 日东化成株式会社 *2 : ADEKA CORPORATION *3 : MITSUBISHI CHEMICAL CORPORATION 三菱化学株式会社

SOLBIN