

光学用接合テープ

耐熱・厚膜・樹脂貼合用[®]メークリンゲル

For Automotive Display May Clean Gel(Junction for optical tape)

<概要(Overview)>

自動運転技術等のシステムの複雑な操作性の向上のためユーザーインターフェイス・デザインの利便性の向上と新しい感性に基づくデザイン・コンセプトや高い審美性が求められている風潮において、本製品は車載ディスプレイや計器、操作パネル等の複雑な形状に追従でき、車載の各部位にシームレスに取り付けるために開発された光学接合テープです。

The new design and improvement of convenience in order to improve the operability automatic operation technology has been demanded. This product is an optical bonding tape that can follow the complex shape of a vehicle-mounted display.

<特徴(Features)>

- ・極めて高い透明性を発揮する。 High transparency.
- ・形状の複雑な樹脂等の難接着部材にボイドレスで貼合できる。
It can be laminated to a member of complex shape.
- ・200℃までの耐熱性能を持つ。 With a 200℃ heat-resistant performance.
- ・形状への追従性に優れている。 Excellent conformability to the shape.
- ・衝撃吸収性に優れており、ガラスなどの破損を防ぐ。 Excellent shock absorpti



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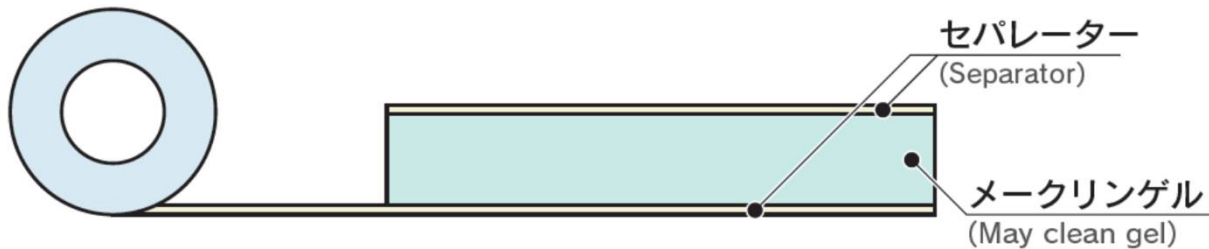
The MGSRB

<テープ基礎物性 (Specifications)>

品番 (Product)	テープ厚み [μm] (Thickness)	常温粘着力 (25℃) [N/25mm] (Peel adhesive 25℃) 被着体PC	高温粘着力 (200℃) [N/25mm] (Peel adhesive 200℃) 被着体PC	光学特性 (Optical properties)
MGSRB	25~2,000	10 (175 μm)	50 (175 μm)	◎

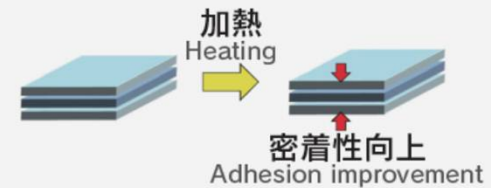
5倍に向上!
5 times to improve!

<構成図 (Configuration diagram)>



<設計思想 (Design concept)>

MGSRB: 熱硬化タイプ Type which is cured by heat.
熱をかけることで、触媒が反応し被着体との粘着力が向上する

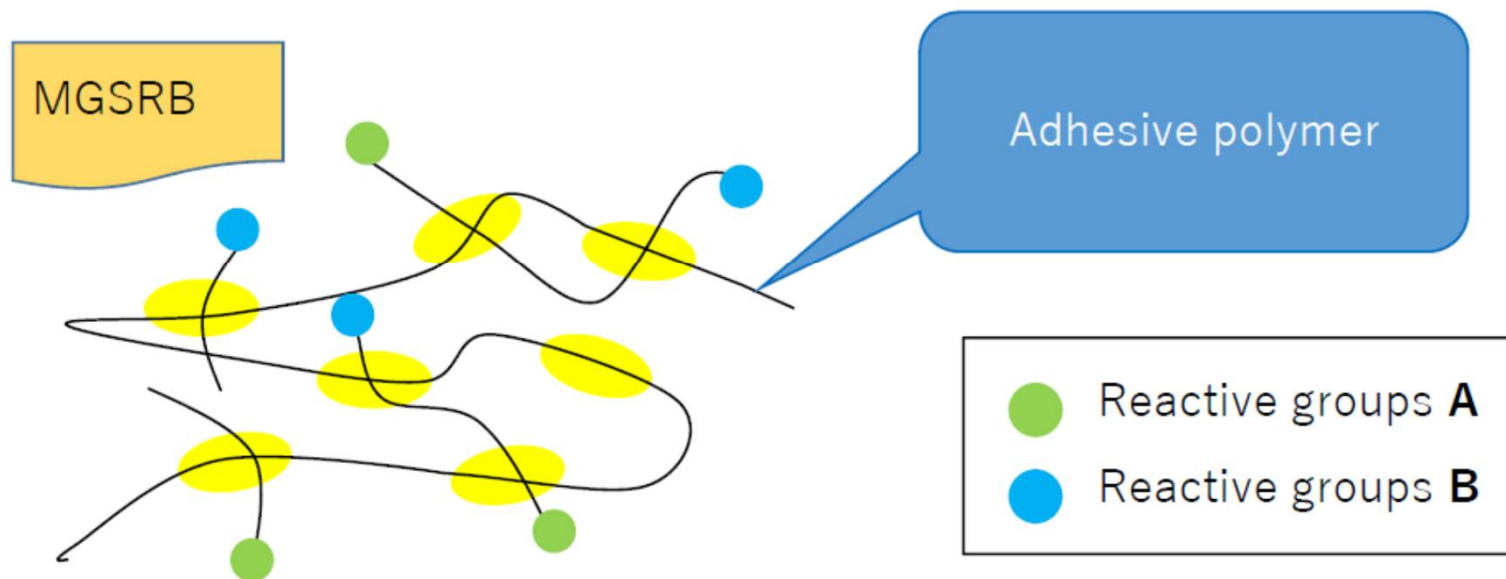


※資料に記載されている各物性値は測定の代表値であり、実際の使用における条件、材質等により、相違する場合も御座いますので、需要家各位で十分ご検討の上ご使用下さるようお願い致します。

The MGSRB

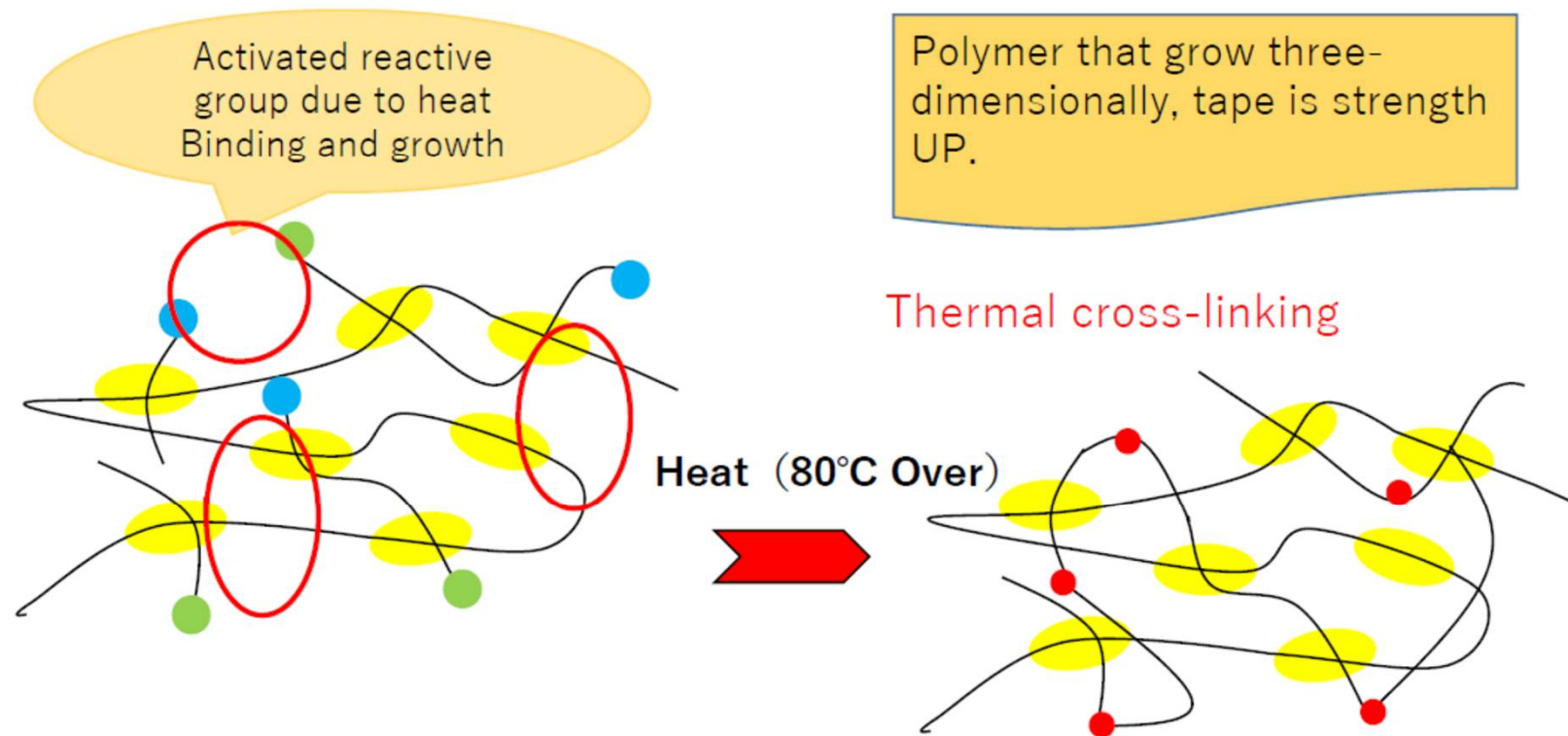
MGSRB Reactive group mechanism

- MGSRB has a reactive group, curing will proceed at 80 °C or higher.
- At 80 °C or less of temperature is stable, curing does not proceed.
- In a high-temperature environment, it has a high adhesion to various adherends.



The MGSRB

MGSRB Reactive group mechanism

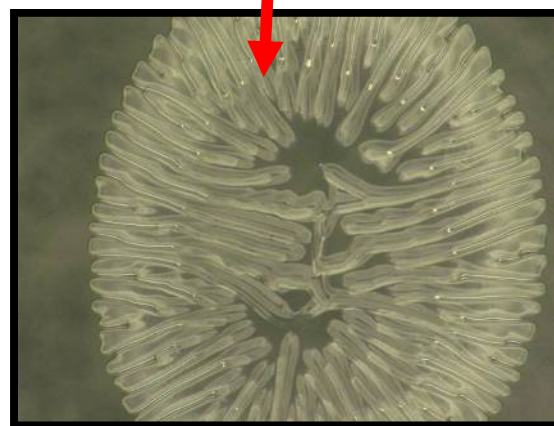
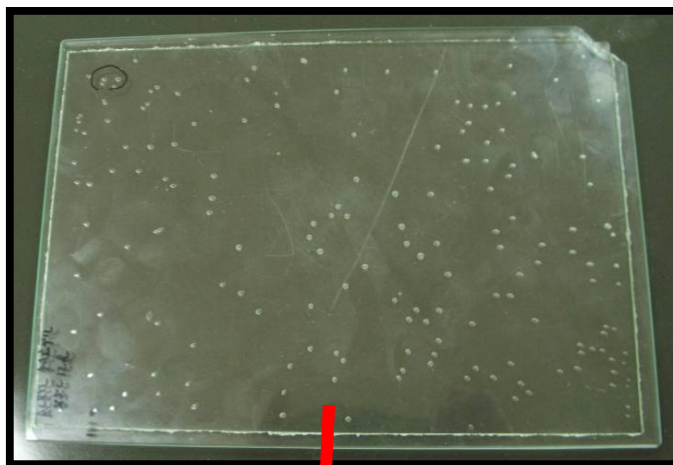


Peeling and the bubble

◆Peeling



◆Bubble



MGSRB can solve the problem !



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Basic characteristic

Item		Item	Value	Test conditions
Product		—	MGSRB	—
Component		—	Special acrylic adhesive	—
Characteristic	Optical properties	TT (%)	92% (99%※removed by calculating the interface reflection loss)	(JISZ8722 t0.5、1mm)
		Refractive index	1.49	(JISK7142)
		Haze [%]	1.0%	(JISK7136 t0.5、4mm)
		Abbe number	54	(JISK7142)
		Birefringence	$1 \sim 4 \times 10^{-6}$	(JISK7142)
		Color difference	$b^* = 0.2 \sim 0.4$	(ISZ8722 t0.5、4mm)
	Mechanical strength properties	Shear strength : glass	1.11	(t0.2mm speed10mm/min)
		Shear strength : Polycarbonate	1.46	(t0.2mm speed10mm/min)
		Breaking strength (25°C) [MPa]	0.038	(Dumbbell No. 3 speed10mm/min)
		Growth rate (25°C) [%]	522.1	(Dumbbell No. 3 speed10mm/min)
		Coefficient of thermal expansion (25°C [ppm/°C])	5.5×10^{-4}	(5°C/min)
		Hardness	32	(Asker C)
		Moisture vapor transmission rate [cm ³ •cm/(m ² •24hrs•atm)]	56.7[g/(m ² •24h)	(JISK7126 GC、 JISZ0208 40°C90% Moisture vapor carbon dioxide)
		Water absorption [wt%]	0.4	(85°C85%)
	Electrical characteristics	ϵ_r 25°C	3.02	(Frequency 1MHz)
		$\tan \delta$ 25°C	0.04	(Frequency 1MHz)
	Other	Corrosive components	None	(KGK Method)



Viscoelasticity

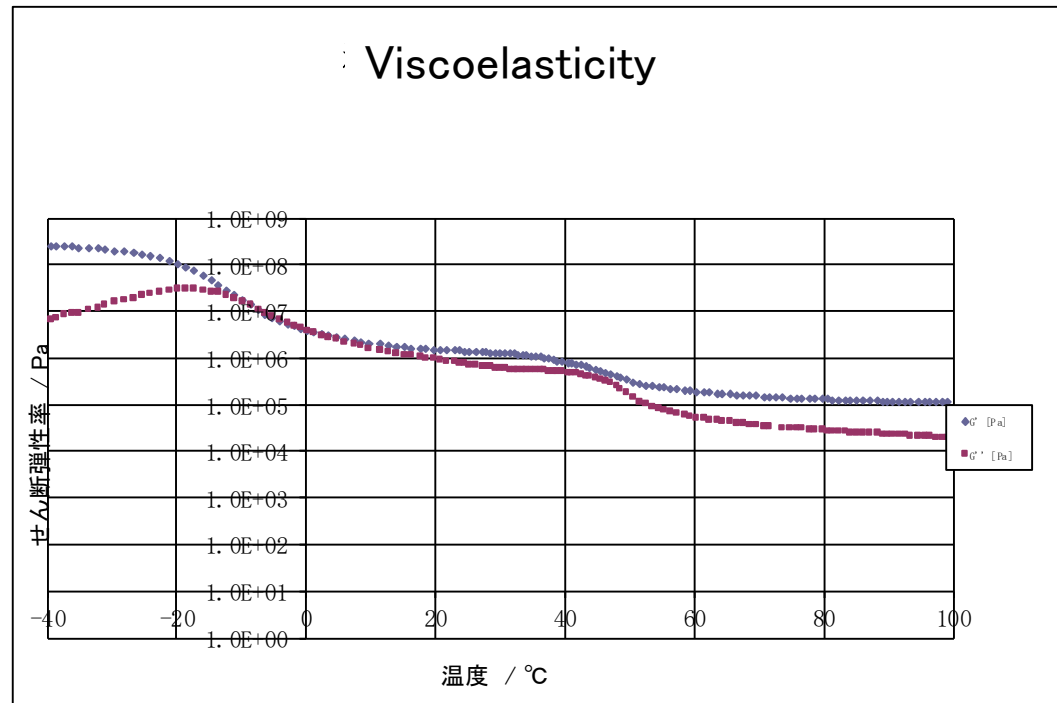
評価サンプル メーカーリングル
MGSRB

評価ポイント	せん断振動負荷振幅変化による粘弾性温度分散特性確認試験
測定条件	「-40℃～100℃間での貯蔵弾性率・損失弾性率」

(2-1) 試験条件

(2-1)	試験条件	
	測定機器	Modula Advanced Rheometer System HAAKE 社製
	センサー	12Φ パラレルプレート
	センサーギャップ	法線応力 5N
	測定モード	定歪みストレス制御による温度SWEEP
	周波数	1Hz

ブランク



Stable temperature characteristics

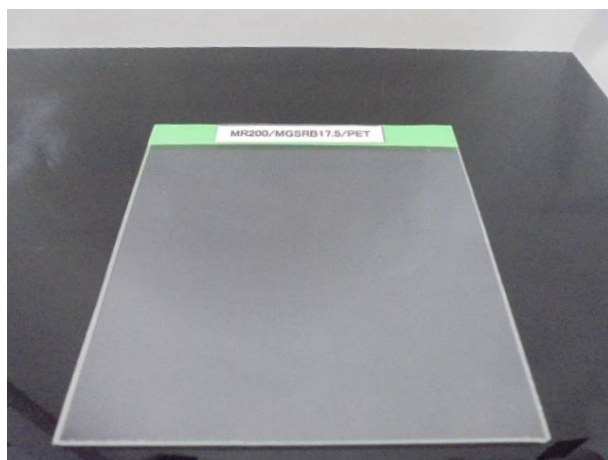
Reliability test (Acrylic plate / Polyester film)

□ Test conditions

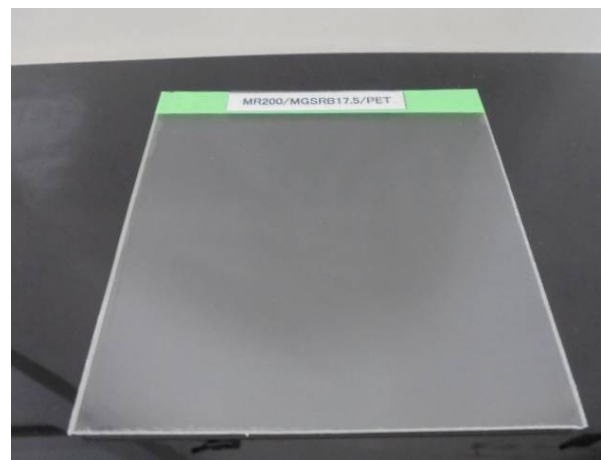
Test sample : PMMA(1.0t) / MGSRB(0.175t) / PET

Size : 100 × 100 (mm)

Temperature conditions: 100°C × 12h



Before



After

□ Test result

No bubble

Reliability test (Polycarbonate plate / Glass)

□ Test conditions

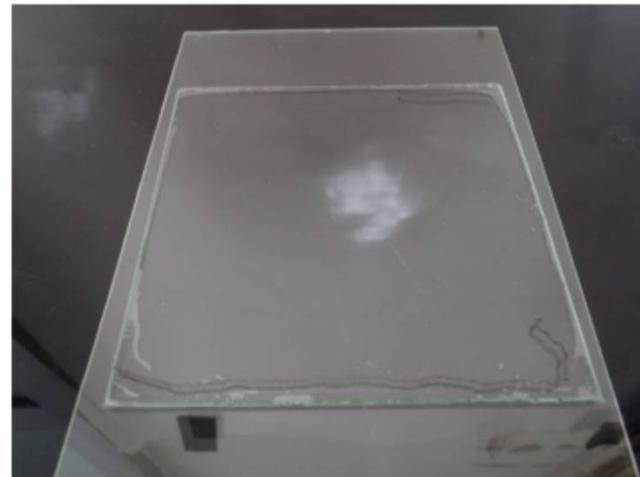
Test sample : PC(1.0t) / MGSRB(0.175t) / Glass

Size : 100 × 100 (mm)

Temperature conditions: 105°C × 8h



Before



After

□ Test result

No bubble

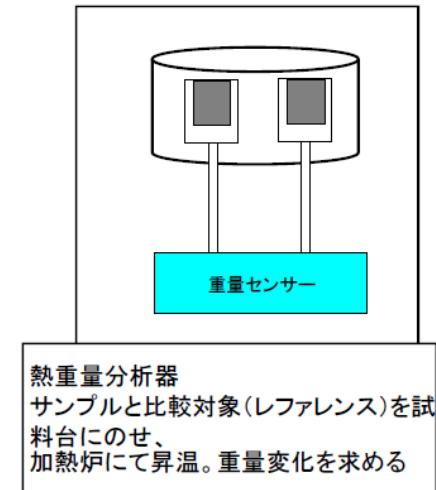
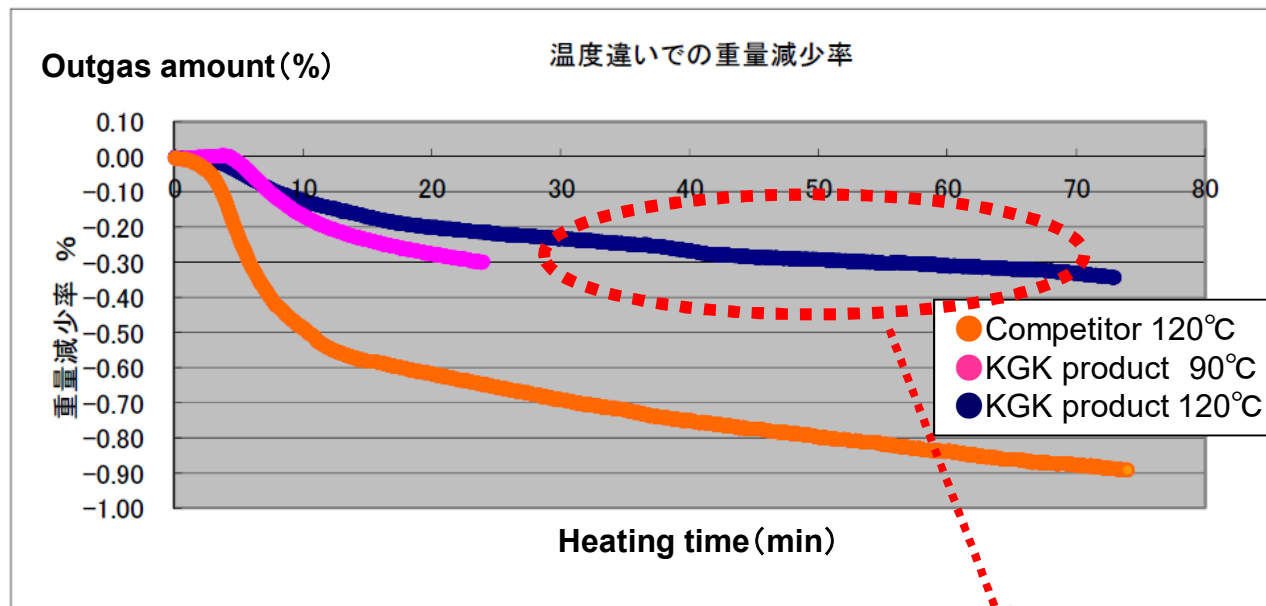
Outgas suppression

MGSRB suppress outgassing by strengthening of cross-linked polymer

分析方法

TG(熱重量分析計)による加熱減量率分析

測定器の構造と原理は、右図参照。



suppress outgassing



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End of presentation

User is responsible for determining whether the KGK product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a KGK product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a KGK product. Given the variety of factors that can affect the use and performance of a KGK product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the KGK product to determine whether it is fit for a particular purpose and suitable for the user's method of application. KGK make no warranties on above data.

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