

Introduction of Transparent Glass Paste

The AGC logo is displayed in a white rectangular box on the right side of the slide. It consists of the letters 'AGC' in a bold, blue, sans-serif font. A small red square is positioned to the right of the letter 'G'.

AGC Inc.

Electronics Company Electronic Materials
General Division
Advanced Materials Division
Semiconductor Materials Management
Department
Frit Products Unit

Your Dreams, Our Challenge

Product Features



1

Provided as a Paste

2

Compatible with a Variety of Glass Substrates

Fired glass film can be applied to low-expansion substrates (quartz, etc.) and soda-lime glass substrates while maintaining transparency

3

Achieves Transparency After Firing

Total light transmittance is 80% or higher after firing.

**Based on evaluation by AGC*

4

Compatible with a Variety of Applications, Including Sealing, Coating, and Glazing

Transparent Glass Paste

Development products		5102Y	YPT525	YPT531E
Features		Excellent acid and thermal resistance	Firing at 600°C or below	Firing at 600°C or below
Glass paste properties	Glass system	SiO ₂ -B ₂ O ₃ -R ₂ O	SiO ₂ -B ₂ O ₃ -ZnO	Bi ₂ O ₃ -B ₂ O ₃ -ZnO
	DTA-Tg [°C]	495* ¹	470	500
	DTA-Ts [°C]	775	580	590
	CTE (50-350°C) [× 10 ⁻⁷ /°C]	28	72	77
	Specific gravity	2.2	2.5	4.7
	Refractive rate (calculated value)	1.46	1.55	1.79
	Center particle diameter D50 [μm]	1.3	2.5	2.5
	Viscosity η ₁₀ [Pa·s]	100	100	100

Fired glass film thickness vs total light transmittance rate

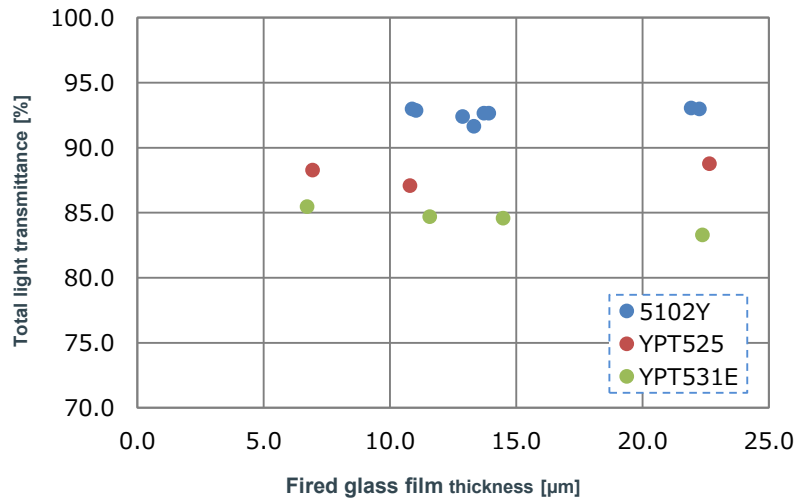


Image of appearance after firing



Glass-printed area

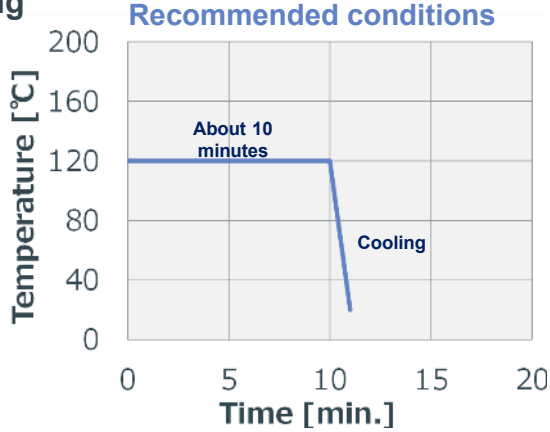
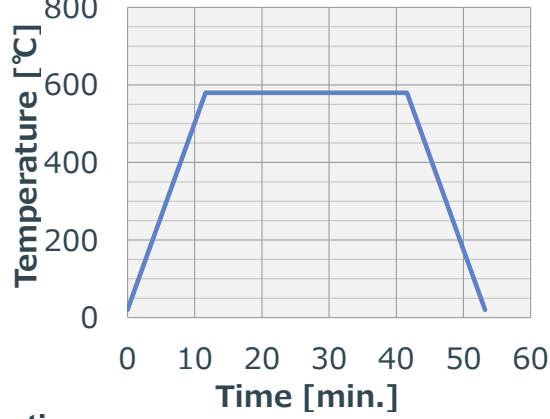
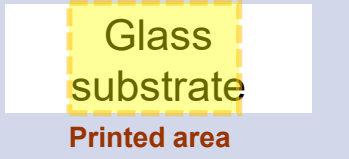



*1 Glass transition point measured by TMA

Point!

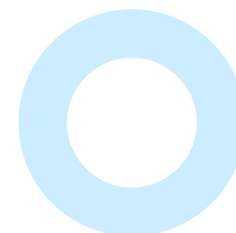
Compatible with various substrates

* Fired glass film can be applied to low-expansion substrates (quartz, etc.) and soda-lime glass substrates while maintaining transparency.

Characteristics of fired glass film

[Process]	Development products	5102Y	YPT525	YPT531E
Printing ↓ Drying ↓  Firing ↓  Evaluation	Production conditions	Printing (1 layer) #325 mesh	#325 mesh 120°C-10 min	#250 mesh
	Drying	120°C-10 min		
	Firing @ atmospheric conditions	850°C-60 min	580°C-30 min	590°C-30 min
	Glass film thickness	11μm		
	Substrate	Quartz	Soda lime glass	Soda lime glass
Fired glass film evaluation	Appearance	Transparent		
	Total light transmittance T(t) ^{*1} [%]	93	87	84
	Haze ^{*1} [%]	0.8	9.6	5.4
	Surface roughness Ra ^{*2} [μm]	0.1	0.3	0.1
	Surface roughness Rz ^{*2} [μm]	1.0	1.8	0.6
Glass film appearance				

Point!
Total light transmittance is 80% or higher after firing^{*3}.



*1: Haze tester, light source: D65, *2: Contact surface roughness tester *3: Based on evaluation by AGC

END

**We will do our utmost to help
you make your dreams come true.**

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