



技 術 資 料

## Technical Information

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### High refractive index coating agent lineups

**ORGATIX TC-130**

**ORGATIX PC-200**



**Matsumoto Fine Chemical Co.,Ltd.**

HEAD OFFICE 5-13-2, Minamiyawata, Ichikawa-shi, Chiba,  
272-0023 JAPAN

TEL +81-47-393-6330

FAX +81-47-393-1063

OSAKA OFFICE Kawaramachi SF Bldg. 6F  
3-4-15, Kawaramachi, Chuo-ku, Osaka, 541-0048 JAPAN

TEL +81-6-7654-6862

FAX +81-6-7655-2087

**High refractive index coating agent lineups**, which we developed, are based upon Titanium oligomer's high coating performance, therefore they could easily achieve high refractive index coating by simple roll to roll process.

1. Features:

- High refractive index coating is made by simple Roll to Roll Heating process.  
→Refractive index can be adjustable from 1.6 to 1.9.
- By Wet Coating process → No need for expensive equipment of Dry Coating process
- Inorganic Coating (by TiO<sub>2</sub>) → High transparency and heat resistance
- Containing no UV resins, nor fillers  
→Thin (nm) coat, high deformational performance and feasibility with base material layer

2. Major Industrial Use:

- Optical film → antireflective film
- Optical glass → touch panel, solar panel
- Optical communication → optical waveguide, plastic optical fiber
- Optic lens, optical electro-device

3. Products list and Physical properties table

Items	<b>ORGATIX TC-130</b>	<b>ORGATIX PC-200</b>
Feature	high-temperature type, glass substrates	lower-temperature and high-temperature combined use.multipurpose base
	thick film	ultrathinness ~ thin film
Composition	Titanium oligomer + film-forming assistant	Titanium oligomer
Appearance	yellowish orange ~ reddish brown slighy cloudiness liquid	pale yellow liquid
Content	31wt%	31wt%
Main solvents	2-Propanol Ethylene glycol	1-Butanol
Viscosity	8mPa·s	7mPa·s
MITI	On inventory (Trade secret)	On inventory (Trade secret)
TSCA		
ECL		
IECSC		
REACH		
Net/Unit of shipment of 1 order	Unregistered	Unregistered
	1kg/ 6kg	0.9kg/ 5.4kg
	15kg/ 60kg	15kg/ 60kg
Note	The make-to-order products	The make-to-order products

※ Above data is representing value and not guaranteed specifications.

#### 4-1. Film Properties After Coating

Drying temperature comparison between in 140°C and 400°C

Items	ORGATIX TC-130		ORGATIX PC-200	
	Refractive index (633nm time)	×	1.80	1.81
Film thickness(nm)	-	590	90	70
Total light transmittance(%)	-	85%	85%	83%
Haze(%)	-	0.45%	0.44%	0.53%
Rub fastness	-	very good	not bad	very good
Contact angle(°)	-	17	49	5 or less
Coating conditions				
Curing temperature (°C)	140	400	140	400
Curing time (min)	1	60	1	60
Dilution	2.0 times		5.0 times	
Bar coater	No.20		No.3	
Application thickness(μm)	45.80(wet)		6.87(wet)	

Test method

Refractive index , film thickness : Reflection spectroscopy

A total light transmittance, haze : Haze meter

(Glass base: total light transmittance 92%, Haze 0.27%)

Abrasion resistance : Visual test after 10 times rub off.

Water contact angle : Contact angle gauge

#### 4-2. Features of each product

PC-200

- Low and high headed dry, both are applicable.
- Inventory in many countries resisted.

TC-130

- Over 500nm thicker film can be made by single coating.
- Improve against acid and chemical resistance.

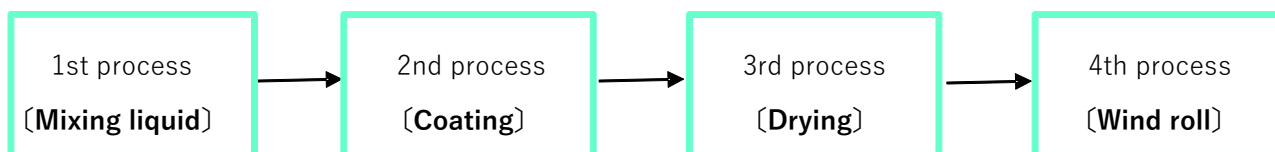
※Others

Mixing use our ORTATIX and another resin.

⇒Singly used is recommended as reaction of ORTATIX and another resin may cause gelation or precipitation by reaction with Hydroxyl and carboxy group.

## 5. How to use

ORGATIX TC-130 and ORGATIX PC-200 are one-liquid type. Please apply it as follows.



### 1st process {Mixing liquid}

List of solvent used for dilution

	Solvents	ORGATIX	ORGATIX
		TC-130	PC-200
Water	Water	×	×
Alcohol	2-propanol	×	○
	1-butanol	○	○
Ester	Ethyl acetate	×	△
Ketone	MEK	×	△
Aromatic hydrocarbon	Toluene	×	△
Aliphatic hydrocarbon	Heptane	×	○

○ : Ratio to dissolve is free    △ : Outbreak of the sediment by aging

× : Cloudy(unusable)                      - : No date

※Solvent(△) may dissolve by combination with solvent(○).

Dilution : Adjust dilution rate by required coating thickness. (Refer table 4-1)

### 2nd process {Coating}

Roll coating, spin coating, spray coating, dip coating are available.

※Avoid to reuse the left.

### 3rd process {Drying}

Adjust drying condition by the required refraction index

(Minimum drying requirement : 100°C×60sec)

Can improve film blushing by adding high boiling solvent in the diluted solvent.

### 4th process {Wind roll}

No aging required. Roll up without blocking after drying.

## 6. Note

ORGATIX TC-130 /PC-200 are the make-to-order products, so we will product these items after your firm order.

## 7. Caution

ORGATIX has high hydrolysable, so please use promptly after opening the package. IT is als o inflammable, so please refer the MSDS carefully before using our High refractive index coating agent series.

The information given in this brochure is based on the present state of our knowledge.  
It shows without liability possible uses for our products.

## Contact



**Matsumoto Fine Chemical Co.,Ltd.**

5-13-2 MINAMIYAWATA, ICHIKAWA-SHI, CHIBA-KEN,  
272-0023  
JAPAN

Tel: +81 47 393 6330

Fax: +81 47 393 1063

URL : <http://www.m-chem.co.jp>

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