

Cyclic Olefin Copolymer (COC)

TOPAS®

5013F-04

Film

General Properties of 5013F-04

table1-1 General Properties (ISO)

Item	Unit	Test Method	Film
			5013F-04
			For Modifying PE etc.
Color			-
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>COC<
Density	kg/m ³	ISO 1183	1,020
Water absorption (23°C, sat.)	%	ISO 62	0.01
MVR (190°C, 2.16kg)	cm ³ /10min	ISO 1133	0.1>
MVR (230°C, 2.16kg)	cm ³ /10min	ISO 1133	9.0
Glass transition temperature (10°C/min)	°C	ISO 11357-1,-2,-3	134
Tensile modulus (Film) (machine direction)	MPa	ISO 527-3	2,600
Tensile modulus (Film) (transverse direction)	MPa	ISO 527-3	2,500
Tensile strength at break (Film) (machine direction)	MPa	ISO 527-3	35
Tensile strength at break (Film) (transverse direction)	MPa	ISO 527-3	25
Elongation at break (Film) (machine direction)	%	ISO 527-3	1.4
Elongation at break (Film) (transverse direction)	%	ISO 527-3	1.1
Gloss, 60° (Film)	%	ISO 2813	100<
Haze (Film)	%	ISO 14782	1>
Water vapor permeability (Film) (38°C, 90%RH)	g · 100µm/(m ² · day)	ISO 15106-3	1.0
Oxygen Permeability (Film) (23°C, 50%RH)	cm ³ · 100µm/(m ² · day · bar)	ASTM D3985	250
Elmendorf tear strength (machine direction)	g	ISO 6383-2	11
Elmendorf tear strength (transverse direction)	g	ISO 6383-2	11
Dart Drop Impact Strength, F50	g	ISO 7765-1	36>
Flammability		UL94	-
The yellow card File No.			-
Appropriate List number of Ministerial Ordinance for Export Trade Control			-

All figures in the table are the typical values of the material and not the minimum values of the material specifications.

NOTES TO USERS

- All property values shown in this brochure are the typical values obtained under conditions prescribed by applicable standards and test methods.
- This brochure has been prepared based on our own experiences and laboratory test data, and therefore all data shown here are not always applicable to parts used under different conditions. We do not guarantee that these data are directly applicable to the application conditions of users and we ask each user to make his own decision on the application.
- It is the users' responsibility to investigate patent rights, service life and potentiality of applications introduced in this brochure. Materials we supply are not intended for the implant applications in the medical and dental fields, and therefore are not recommended for such uses.
- For all works done properly, it is advised to refer to appropriate technical catalogs for specific material processing.
- For safe handling of materials we supply, it is advised to refer to the Safety Data Sheet "SDS" of the proper material.
- This brochure is edited based on reference literature, information and data available to us at the time of creation. The contents of this brochure are subject to change without notice upon achievement of new data.
- Please contact our office for any questions about products we supply, descriptive literatures or any description in this brochure.

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