## **Product Information**

TOYOBO FILM SOLUTIONS LTD.

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## **Teonex® Film Physical Properties Q83**

Film Type: Teonex® Q53 ···Low shrinkage type

Film Type: Teonex® Q83 ···Q53+heat stablization=off-line anealing

Properties	Units			Q53		Q83			
			25µ	50µ	75µ	25µ	50µ	75µ	Test Method
Thickness	[µm]	(CMT)	25.0	50.0	75.0	25.0	50.0	75.0	
Tensile strength	[MPa]	MD	230	172	219	230	172	219	JIS C-2318
		TD	290	240	261	290	240	261	
Elongation at break	[%]	MD	140	130	150	140	130	150	JIS C-2318
		TD	105	110	116	105	110	116	
Heat shrinkage	[%]	MD	0.3	0.2	0.2	0.1	0.1	0.1	JIS C-2318
(150°C×30min)		TD	0.2	0.2	0.2	0.0	0.0	0.0	
Heat shrinkage	[%]	MD	0.6	1.5	1.2	0.3	0.3	0.2	JIS C-2318
(200°C×10min)		TD	0.1	1.7	0.4	-0.1	0.1	-0.1	

<sup>\*</sup>Typical value

These values are typical performance data for Teonex® PEN film; they are not intended to be used as design data. We believe this information is the best currently available on the subject. It is offered as a possible helpful suggestion in experimentation you may care to undertake along these lines. It is subject to revision as additional knowledge and experience is gained. TOYOBO FILM SOLUTIONS LTD. makes no guarantee of results and assumes no obligation or liability whatsoever in connection with this information. This publication is not a license to operate under, or intended to suggest infringement of, any existing patents.

CAUTION: Do not use in medical applications involving permanent implantation in the human body.

Teonex® is registered trademarks of TOYOBO FILM SOLUTIONS LTD. for polyester films.

<sup>\*</sup>Off line annealing is process to heat stablized the film to for lower shrinakage.

<sup>\*</sup>Thickness, tensile trength and elongation at breah of Q83 is base film data which measured before annealing.