

## 產品認證與許可

台塑公司聚縮醛廠為了提升品質，滿足客戶需求。從1994年即建立品質管理系統並通過國際標準組織ISO-9000認證。後續通過ISO 14001、OHSAS 18001等國際認證。

我們的產品**台塑鋼® FORMOCON®**亦通過美UL (Underwriters Laboratories) 塑膠材料規格認定，並合乎食品級FDA (Food and Drugs Administrations) 之要求。此外，**台塑鋼® FORMOCON®** FM090已獲得NSF (National Sanitation Foundation) standard 61認證，適合應用於飲用水設備之零組件材料。下列各項認證資料，僅提供參考。若需更詳細資料或特殊符合性認證，請與本公司營業部門聯絡  
(電話：886-2-27122211 # 8157、6137)  
(傳真：886-2-27181230)

## ◎ MANAGEMENT SYSTEM APPROVALS

- ▲ ISO 9001:2008  
(Quality Management System, 品質管理系統)
- ▲ ISO 14001:2004  
(Environment Management System, 環境管理系統)
- ▲ OHSAS 18001:2007  
(Occupational Safety and Health Management System, 職業安全衛生管理系統)
- ▲ SONY GREEN PARTNER

## ◎ SAFETY & SANITARY APPROVALS

- ▲ UL (Underwriters Laboratories : USA)  
File No.:E173318
- ▲ CSA (Canadian Standard Associate : Canada)
- ▲ NSF (National Sanitation Foundation : USA)  
NSF61 (Drinking Water System Components)  
Customer No.: 8220, Plant No.: 82201 DCC: IA07897
- ▲ FDA (Food and Drugs Administrations : USA)
- ▲ WRAS (Water Regulations Advisory Scheme: UK)
- ▲ KTW (Hygiene- Institut des Ruhrgebiets)

## CERTIFICATIONS AND APPROVALS

Since 1994, FPC has established quality management system and obtained ISO 9001 certification in order to improve the quality of POM and meet the requirements of our customers. Our management system also has been certified to other important international standard certifications such as ISO-14001:2004, OHSAS-18001 and so on.

Our product **FORMOCON®** are listed in UL (Underwriters Laboratories) of USA, and also comply with the regulations of FDA (Food and Drug Administration). **FORMOCON®** FM090 is certified by NSF (National Sanitation Foundation), and comply with the requirements of NSF standard 61 for the drinking water system components.

Following is a list of certifications and approval for reference. For further or specific compliance information, please contact FPC sale department  
(Tel: 886-2-27122211 # 8157、6137)  
(Fax: 886-2-27181230)

## ◎ MANAGEMENT SYSTEM APPROVALS

- ▲ ISO 9001:2008 (Quality Management System)
- ▲ ISO 14001:2004 (Environment Management System)
- ▲ OHSAS 18001:2007  
(Occupational Safety and Health Management System)
- ▲ SONY GREEN PARTNER

## ◎ SAFETY & SANITARY APPROVALS

- ▲ UL (Underwriters Laboratories: USA)  
File No.:E173318
- ▲ CSA (Canadian Standard Associate : Canada)
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- ▲ KTW (Hygiene- Institut des Ruhrgebiets)



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# 台塑鋼® FORMOCON®

共聚型聚縮醛樹脂 ACETAL CO-POLYMER



物性一覽表

品 別			FM025	FM090	FM130	FM270	FM350	FM450
試驗項目	單位	方法						
MI值	g/10min	D1238	2.5	9	13	27	35	45
比重		D792	1.41	1.41	1.41	1.41	1.41	1.41
硬 度	M刻度	D785	78	80	80	80	80	80
ROCKWELL	R刻度	--	--	115	--	--	--	--
抗折強度			950	950	950	950	950	950
抗折彈性係數	kgf/cm <sup>2</sup>	D790	26000	26000	26000	26000	26000	26000
拉伸強度	降伏點	Kgf/cm <sup>2</sup>	610	620	620	620	620	620
延伸率	斷裂點	%	75	60	55	45	40	35
壓縮強度	1%變形	kgf/cm <sup>2</sup>	320	320	320	320	320	320
	10%變形		1100	1100	1100	1100	1100	1100
衝擊強度	凹側23°C 50%RH	kgf/cm <sup>2</sup>	7.6	6.5	6	5.4	5.1	4.5
吸水率	23°C水中 24小時浸泡	%	0.22	0.22	0.22	0.22	0.22	0.22
耐熱性 (UL94)		UL94	HB	HB	HB	HB	HB	HB
成型收縮率 (3mm <sup>1</sup> ,4in圓盤)	%		1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2
熱變形溫度 18.6kgf/cm <sup>2</sup>	°C	D648	110	110	110-	110	110	110
熱變形溫度 4.6kgf/cm <sup>2</sup>	°C	D648	158	158	158	158	158	158
線膨脹係數	Cm/cm°Cx10 <sup>-5</sup>	D696	8.45	8.45	8.45	8.45	8.45	8.45
熔 點	°C	DSC	165	165	165	165	165	165
VICAT軟化點	°C	D1525	162	162	162	162	162	162
體積電阻係數23°C50% RH	Ω.cm	D257	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>
表面電阻係數23°C50%RH	Ω	D257	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>
介電常數	50HZ	ISO	3.8	3.8	3.8	3.8	3.8	3.9
	1KHZ	IEC250	3.8	3.8	3.8	3.8	3.8	3.8
	1MHZ		3.8	3.8	3.8	3.8	3.8	3.8
絕緣強度(2mm)	KV/mm	D149	24	24	24	24	24	24

※ 表中數據照上列試驗方法測得之參考值，僅供客戶選擇適當品類之用

品別、用途一覽表

品別	特性	用途
FM025	高黏度，低模垢，押出厚斷面射出	素材押出、其他押出品
FM090	標準流動性，低模垢	扣具按扣，管件及五金，齒輪，電子零件，汽車零件，家庭電器，軸承，其他射出零件
FM130	中流動性，低模垢加工性優異	扣具按扣，拉鍊，管件及五金，齒輪，軸承，電子零件，汽車零件，家庭電器，其他射出零件
FM270 FM350	高流動性，低模垢加工性優異	按扣，拉鍊，齒輪，電子零件，汽車零件，家庭電器，其他小型機器零件
FM450	超高流動性，低模垢	按扣，拉鍊，齒輪，電子零件，汽車零件，家庭電器，其他小型機器零件

PRINCIPLE PHYSICAL PROPERTIES OF ACETAL COPOLYMER

Grade			FM025	FM090	FM130	FM270	FM350	FM450
Property	Unit	ASTM						
MI Value	g/10min	D1238	2.5	9	13	27	35	45
Specific Gravity		D792	1.41	1.41	1.41	1.41	1.41	1.41
Rockwell Hardness	MScale	D785	78	80	80	80	80	80
ROCKWELL	RScale	--	--	115	--	--	--	--
Flexural Strength	kgf/cm <sup>2</sup>	D790	950	950	950	950	950	950
Flexural Modulus	kgf/cm <sup>2</sup>		26000	26000	26000	26000	26000	26000
Tensile Strength at yield point	Kgf/cm <sup>2</sup>	D638	610	620	620	620	620	620
Tensile Elongation at break point	%		75	60	55	45	40	35
Compressive 1%Deformation	kgf/cm2	D695	320	320	320	320	320	320
Stress 10% Deformation			1100	1100	1100	1100	1100	1100
Izod Impact V-notched23°C	kgf/cm <sup>2</sup>	D256	7.6	6.5	6	5.4	5.1	4.5
Strength 50%RH								
Water 23°C	%	D570	0.22	0.22	0.22	0.22	0.22	0.22
Absorption (69%) RH								
Flammability (UL94)		UL94	HB	HB	HB	HB	HB	HB
Mold Shrinkage (3mmt, 4in disk)	%		1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2
Heat Deflection 18.6kgf/cm <sup>2</sup>	°C	D648	110	110	110-	110	110	110
Temperature 4.6kgf/cm <sup>2</sup>	°C	D648	158	158	158	158	158	158
Linear Expansion Factor	Cm/cm°Cx10 <sup>-5</sup>	D696	8.45	8.45	8.45	8.45	8.45	8.45
Melting Point	°C	DSC	165	165	165	165	165	165
Vicat Softening Temp.	°C	D1525	162	162	162	162	162	162
Volume Resistivity23°C50% RH	Ω.cm	D257	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>	1x10 <sup>14</sup>
Surface Resistivity23°C50% RH	Ω	D257	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>	1x10 <sup>16</sup>
Dielectric Constant	50HZ	ISO	3.8	3.8	3.8	3.8	3.8	3.9
	1KHZ	IEC250	3.8	3.8	3.8	3.8	3.8	3.8
	1MHZ		3.8	3.8	3.8	3.8	3.8	3.8
Dielectric Breakdown Strength (2mm)	KV/mm	D149	24	24	24	24	24	24

NOTE: Above data are shown for reference only.

FEATURE AND APPLICATIONS OF GRADES

Grade	Feature	Application
FM025	High-viscosity Extrusion, Minimal mold	Extruded rods and sheets, Other extrusion parts
FM090	Standard-flow Minimal mold	Buttons and press-in fasteners, Plumbing and hardware, Gears, Electronic arts, Automotive parts, Household appliances, Bearing, Other injection parts
FM130	Medium-flow Minimal mold	Buttons and press-in fasteners, Zippers, Plumbing and hardware, Gears, Bearing, Electronic parts, Automotive parts, Household appliances, Other injection parts
FM270	High-flow	Press-in fasteners, Zippers, Gears, Electronic parts,
FM350	Minimal mold	Automotive parts, Household appliances, Other small mechanical parts
FM450	Superhigh-flow	Press-in fasteners, Zippers, Gears, Electronic parts, Automotive parts, Household appliances, Other small mechanical parts.