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Suzhou Shincell New Material Co., Itd

Committed to sustainable foaming technology



Established in March 2019, we focus on the research and development of polymer clean foaming technology and high-performance lightweight materials. At present, we have over 100 employees, 20000 square meters of plant area and 60 million RMB of actual capital utilized. We have built 9 polymer microporous foam production lines with a single machine capacity of 500 tons/year. The company's core equipment and key processes are independently developed and have completely independent intellectual property rights. We have applied for 12 invention patents and 7 utility model patents.

Shincell has a R&D center and an analysis and testing center, and has passed ISO 14001 environmental management system certification and ISO 9001 quality management system certification, and was certified as a "high-tech enterprise" in December 2021.

Shincell's main products are divided into two categories: light and high strength materials and soft and high elastic materials. The products serve Huawei, ATL, Adidas, Li Ning, Anta, HOKA,KEEP and other customers.

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			CERTIFICATE OF COMPLIANCE
		and Linky	Certificate Number E516134 Report Reference E516134-20180831 Issue Date 2020-AUGUST-07
	上海赛威认证有限公司	上海赛威认证有限公司	Issued to: Shincell New Material Co Ltd Zone 11, C,20 Datong Road, High-tech Zone
	环境管理体系认证证书	质量管理体系认证证书	SUZHOU 215000 CHINA
高新技术企业	≝1%495 \$\$112100008 荒Ⅲ明 苏州申赛新材料有限公司	在证明 苏州申赛新材料有限公司	This certificate confirms that COMPONENT - PLASTICS representative samples of Polypropylene (PP), Models FR-MPP, FR-NPE
	近次们中委期内内科有限公司 重原机构代码,进一社会期代码;912(2009)81(11)8659.		Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on
8 📅 📲 🕺 👌	社務地:券州市実置区大同路20 号石区1号(約口加工区三期C区11号) 生产/授政権: 江美安苏州市高額区大同路20 号石区1号(前口加工区三期C区11号)	注册地:-苏州市高新区大同路 20 号五区 1 号(出口加工区三期 c 区 11 号) 生产/检查地:江苏省苏州市高新区大同路 20 号五区 1 号(出口加工区三期 c 区 11 号)	this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
	环境管理体系符合标准: GB/T24001-2016/IS014001:2015	质量管理体系符合标准: GB/T19001-2016/IS09001:2015	Complete equipment submitted for investigation to ULLUC. Standard(s) for Safety: For standard information please visit UL iQ Plastics
议 企业名称:苏州申赛新材料有限公司 证书编号: GR202132008071 📎	管理体系认证范围:	管理体系认证范围: 环保清洁高性能聚合物经量化材料的研发、加工	Database* (https://my.secure.home1.ul.com/portal/page/portal/usa//Q/i
发证时间: 2021年11月30日 有效期: 三年	环保清洁商性能聚合物轻量化材料的研发、加工及相关管理活动	- AND -	<u>QWetcomm</u>) Additional Information: See the UL Online Certifications Directory at <u>https://ig.utprospector.com</u> for additional information.
批准机关:	(33%A) (32%A) (32\%A) (3		This Certificate of Compliance does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.
A PALAN			Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.
			Look for the UL Recognized Component Mark on the product.
	年纪中三年和北朝市地市12月近日建立-次直接带领。 并和注意的认为一般使用方可有达。	本证明三年和38時時期间12个月19世纪一次应加申除, 并和中國地域从有一級地域方可有其。	<u>MAMAMAMAMAMAM</u>
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Founder's profile

Founder: Dr. Xiulei, Jiang

2003.9-2009.5 East China University of Science & Technology, Ph.D

2015.10-2018.10 Zhejiang University, Postdoctor

- M.S./Ph.D. research topic: <u>microporous foaming of</u> <u>polypropylene with application of supercritical CO2</u>
- Postdoctoral research topic: <u>thermoplastic polyurethane</u> (TPU) microcellular foaming
- Published 6 relevant research papers (SCI indexed)
- In March 2009, the applicant put forward the technical idea of industrialization of polymer solid foaming for the first time in the world and built the first generation of MPP microcellular foaming production line, which has been upgraded and iterated continuously.
- Participated in the National Key R&D Program "Lightweight Technology of Polymer Materials".
- The research team won the first prize of Shanghai Science and Technology Progress Award in 2020
- Since 2003, we have been focusing on the research and application development of microcellular foaming _____





Core Technologies

IP status

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FTO (Freedom To Operate) assessment obtained from the law firm without infringement, against the patent existed in the key regions globally.

 Various Patents (more than 20 patents), including PCT patent, applied across the foaming process, machinery and tooling.



R&D Center

Joint R&D Center with Universities.



苏州工业技术研究院 Suzhou Industrial Technology Research Institute

聚合物轻量化材料联合研发中心

Joint R&D Center of Lightweight Polymer Materials

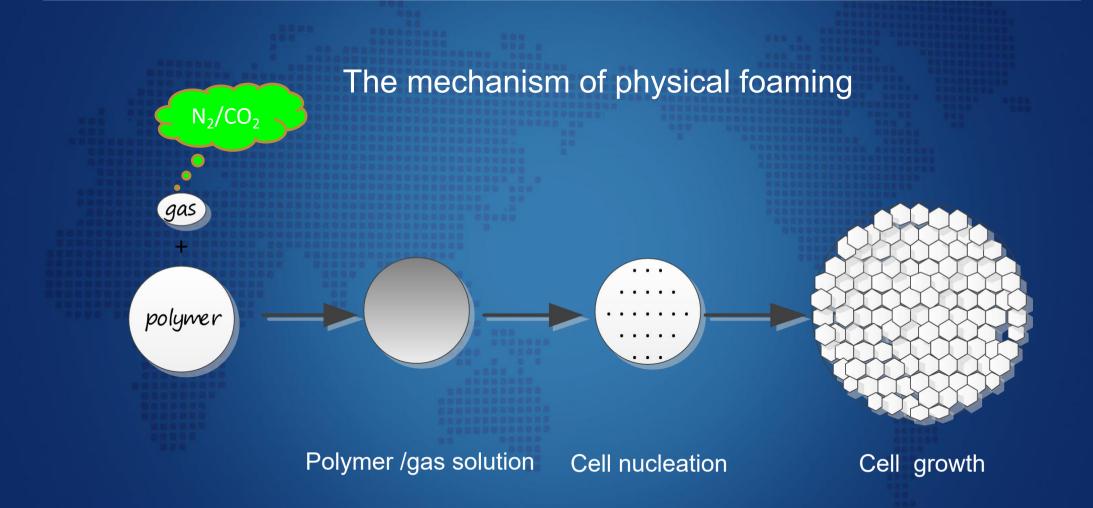


及智能化应用技7

New material development and intelligent application technology Research Center

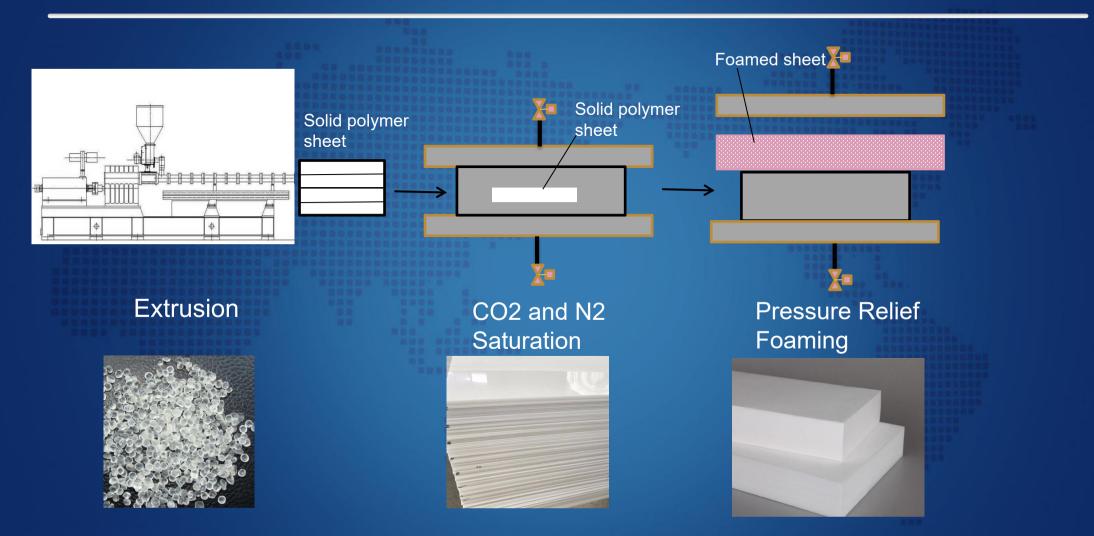
What's supercritical physical foaming?





Theory process











Production Facilities





CO2/N2 Gas station



Lab scale machine



Extrusion line



Sheet foaming machine



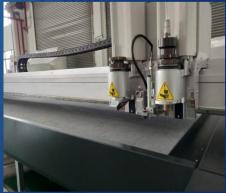
Particle foaming machine



Testing lab



Precise skiving machine



Digitized cutting machine





4 production lines now and will add 5 production lines in End of March 2023. Total 9 production lines.

190pcs foam sheets per one machine per day. For exsample, M-TPEE12 size 1400*1050*28MM can be produced 760pcs per day now and can be produced 1710pcs per day in March 2023.



Sheet foaming machine



Our Products:

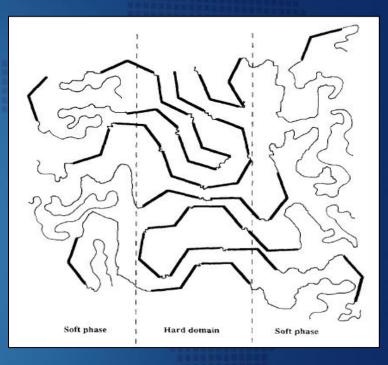
M-TPU Aliphatic TPU (A-TPU) M-TPEE M-PEBAX(Bio-Based)

The micro-structural phase separation of hard segment and soft segment contributed to the high performance

Hard segment (HS) domains dispersed in a soft segment (SS) matrix.









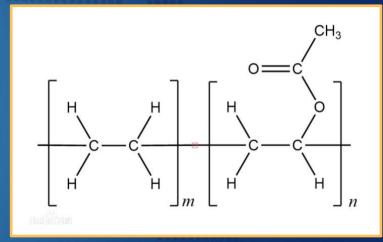
What's the constrains of EVA based foam?

•EVA molecular structure & limited material options hinders the further improvement of performance.

Short service life, foam get deformation & collapse.

 Unpleasant smell & restricted chemicals generated by chemical foaming agent

Not recyclable, not eco-friendly



EVA Molecular structure



What's the solution from Shincell?

Elastic thermoplastic + physical foaming (Supercritical fluid foaming)

- Superior performance in terms of extremely high energy return, lightweight and long-lasting cushioning.
- No smell, no additional chemicals, foamed by the gas exists in the air.
- No crosslinking enables recyclability
- Bio-based version is also available, Content up to 44%
- Recyclable ,low temperature resistant





Tg: Glass Transition Temperature

The lower the Tg value, the better the cold resistance

MATERIAL	Raw Material Supplier	Tg Value
PEBAX(Bio-Base)	Arkema	-35.8 ℃
TPU	BASF	-49 ℃
TPEE	DUPONT	-50 ℃

What's the application?







Physical property of MTPU foam sheets in single large pieces

检验项目 Test Item	测试方法 Test Method	单位 Unit	M-TPU12	M-TPU16	M-TPU20
密度density	ASTM D3574	g/cm3	0.12±0.02	0.16±0.02	0.20±0.02
硬度hardness	Shore C	С	23±4	27±4	36±4
拉伸 Tensile Strength	ISO 1798:2008	MPa	3.6	4.0	4.4
伸长率 Elongation at Break	ISO 1798:2008	%	280	320	360
撕裂强度(裤型) Method A Tear Trouser Test	ISO 8067:2008	N/cm	32	42	52
撕裂强度(直角) Method B Tear Angle Test	ISO 8067:2008	N/cm	82	96	110
落球回弹 Ball Resilience	ASTM D3574	%	63-69	62-68	60-66
压缩形变 Compression set	ASTM D395	%	29	27	25
耐黄变 Sun Test	ASTM D1148	/	4	4	4



Physical property of Aliphatic TPU foam sheets in single large pieces

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检验项目	测试方法	单位	Aliphatic TPU	
Test Item	Test Method	Unit		TETE STREET
密度 Density	ISO 845:2006	g/cm ³	0.07±0.02	
硬度 Hardness	SATRA TM 205-16	Shore C	30±5C	
拉伸 Tensile Strength	ISO 1798:2008	MPa	2.27	
伸长率 Elongation at Break	ISO 1798:2008	%	163.92	1000.
撕裂强度(裤型) Method A Tear Trouser Test	ISO 8067:2008	N/cm	18.27	
撕裂强度(直角) Method B Tear Angle Test	ISO 8067:2008	N/cm	69.6	
落球回弹 Ball Resilience	ASTM D3574	%	80	
压缩形变 Compression Set	ASTM D395	%	24	





Physical property of MTPEE foam sheets in single large pieces

检验项目 Test Item	测试方法 Test Method	单位 Unit	M-TPEE12	M-TPEE14	M-TPEE16
密度 Density	ISO 845:2006	g/cm ³	0.12±0.02	0.14±0.02	0.16±0.02
硬度 Hardness	SATRA TM 205-16	Shore C	34±4C	40±4C	45±4C
拉伸 Tensile Strength	ISO 1798:2008	MPa	2.8	3.6	4.0
伸长率 Elongation at Break	ISO 1798:2008	%	280	320	360
撕裂强度(裤型) Method A Tear Trouser Test	ISO 8067:2008	N/cm	35	45	55
撕裂强度(直角) Method B Tear Angle Test	ISO 8067:2008	N/cm	95	110	120
落球回弹 Ball Resilience	ASTM D3574	%	72	67	67
压缩形变 Compression Set	ASTM D395	%	23	19	19





Physical property of M-Pebax foam sheets in single large pieces

检验项目 Test Item	测试方法 Test Method	单位 Unit	M-PEBAX07	
密度 Density	ISO 845:2006	g/cm ³	0.07±0.02	
硬度 Hardness	SATRA TM 205-16	Shore C	35±4C	
拉伸 Tensile Strength	ISO 1798:2008	MPa	2	
伸长率 Elongation at Break	ISO 1798:2008	%	150	
撕裂强度(裤型) Method A Tear Trouser Test	ISO 8067:2008	N/cm	15	
撕裂强度(直角) Method B Tear Angle Test	ISO 8067:2008	N/cm	60	
落球回弹 Ball Resilience	ASTM D3574	%	75	
压缩形变 Compression Set	ASTM D395	%	38	









Customers







Do you have any question?

Thank you

send email to: contact@shincell.com