

诚信立业 追求卓越





荣盛石化

全球综合实力领先的石化行业龙头企业之一

作为全球领先的化工材料生产商之一，公司主导运营全球单体最大的炼化一体化项目4000万吨/年绿色石化基地，公司旗下化学品产能达6000万吨，是全球重要的聚酯、新能源材料、工程塑料和高附加值聚烯烃的生产商，是全球最大的PX、PTA等化工品生产商，聚乙烯、聚丙烯、PET、EVA、ABS、PC 等多个产品的产能位居全球前列。

公司控股股东为浙江荣盛控股集团有限公司，位列世界500强第118位、中国民企制造业500强第4位、中国民营企业500强第7位；公司战略股东为全球石化巨头沙特阿美，位列世界500强第4位。

浙江荣盛控股集团有限公司



沙特阿拉伯国家石油公司
(沙特阿美)

荣盛石化股份有限公司

股票代码 | 002493



原油年加工能力
4000万吨



公司旗下化学品产能
6000万吨



营业收入

3000+亿元



全球化工最具价值品牌榜

第5位



全球化工公司十亿美元俱乐部

第7位



全球化工企业 100 强

第9位



MSCI ESG评级

A级



荣盛石化销售有限公司

余杭辉

聚酯部
陆展华

聚酯原料
(PX、MEG、PTA等)
聚酯

聚烯烃部
汪海栋

PE
PP
EVA
POE

基础产品部
余杭辉

成品油
基础化学品
聚氨酯

工程塑料部
俞峰

ABS
PC
PMMA
PA

物流部
刘亿平

物流

一滴油到万物，赋能万千生活，驱动科技突破

汽油、柴油、航空煤油、燃料油、石脑油、
液化气、硫磺、负极焦

炼油

纯苯、苯乙烯、对二甲苯 (PX)、间二甲苯
(MX)、对苯二甲酸 (PTA)、间苯二甲
酸 (PIA)、涤纶 (POY、FDY、DTY)、聚
酯薄膜、聚酯瓶片、r-PET

烯烃
及下游

芳烃
及下游

乙烯、乙二醇、LDPE、LLDPE、HDPE、醋酸乙
烯、EVA、丙烯、聚丙烯、苯酚、丙酮、双酚A、
PC、MMA、PMMA、环氧丙烷、聚醚多元醇、
丙烯腈、丁二烯、异丁烯、ABS、顺丁橡胶、丁
苯橡胶



衣



食



住



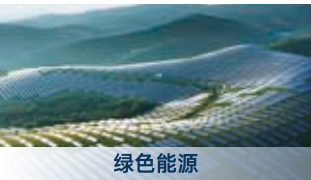
行



前沿技术



高端制造



绿色能源



航空



医疗健康



循环经济



电子信息



商业航天



▶ Rongsheng Petrochemical

One of the world's leading petrochemical enterprises with comprehensive strength at the forefront of the global industry

As a world-leading manufacturer of chemical materials, the company leads the operation of the world's largest single-train 40 million tons per annum (Mt/a) integrated refining and petrochemical project at the Zhoushan Green Petrochemical Base, with an annual chemical production capacity of 60 million tons. It is a key producer of polyester, new energy materials, engineering plastics and high-value-added polyolefins globally, the world's largest manufacturer of key chemical products including PX and PTA, and ranks among the top in the world in terms of production capacity of PE, PP, PET, EVA, ABS, PC and other core products.

The company's controlling shareholder is Zhejiang Rongsheng Holding Group Co., Ltd., which ranks 118th on the Fortune Global 500 list, 4th on the China Top 500 Private Manufacturing Enterprises list, and 7th on the China Top 500 Private Enterprises list. Its strategic shareholder is Saudi Aramco, the global petrochemical giant, which ranks 4th on the Fortune Global 500 list.



Annual Crude Oil Processing Capacity
40 Million Tons

Annual Chemical Producing Capacity
60 Million Tons

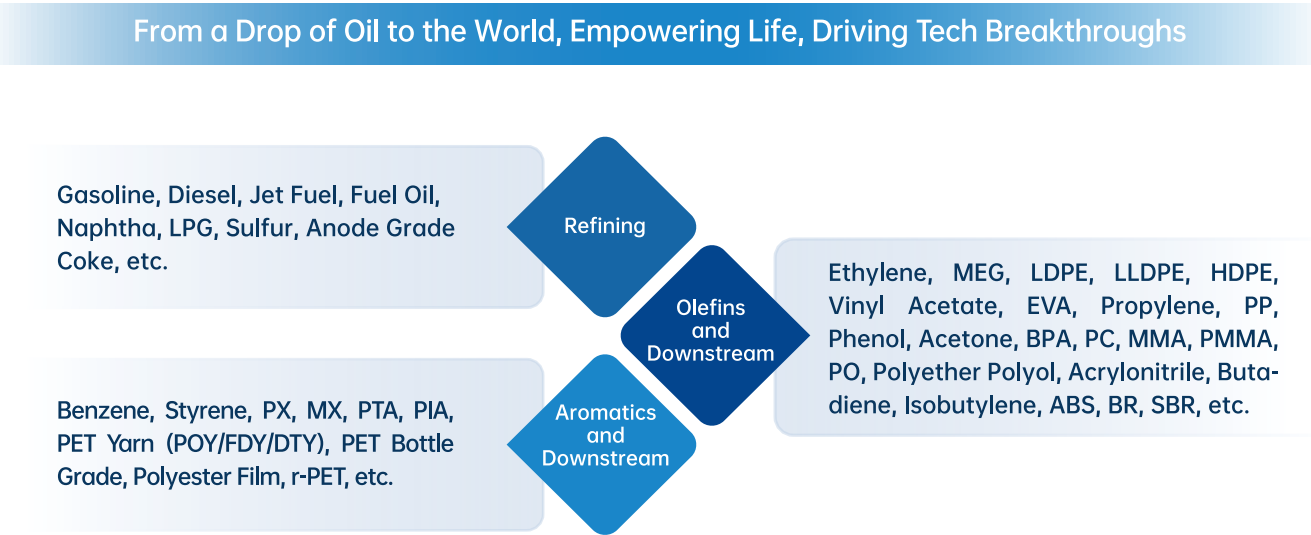
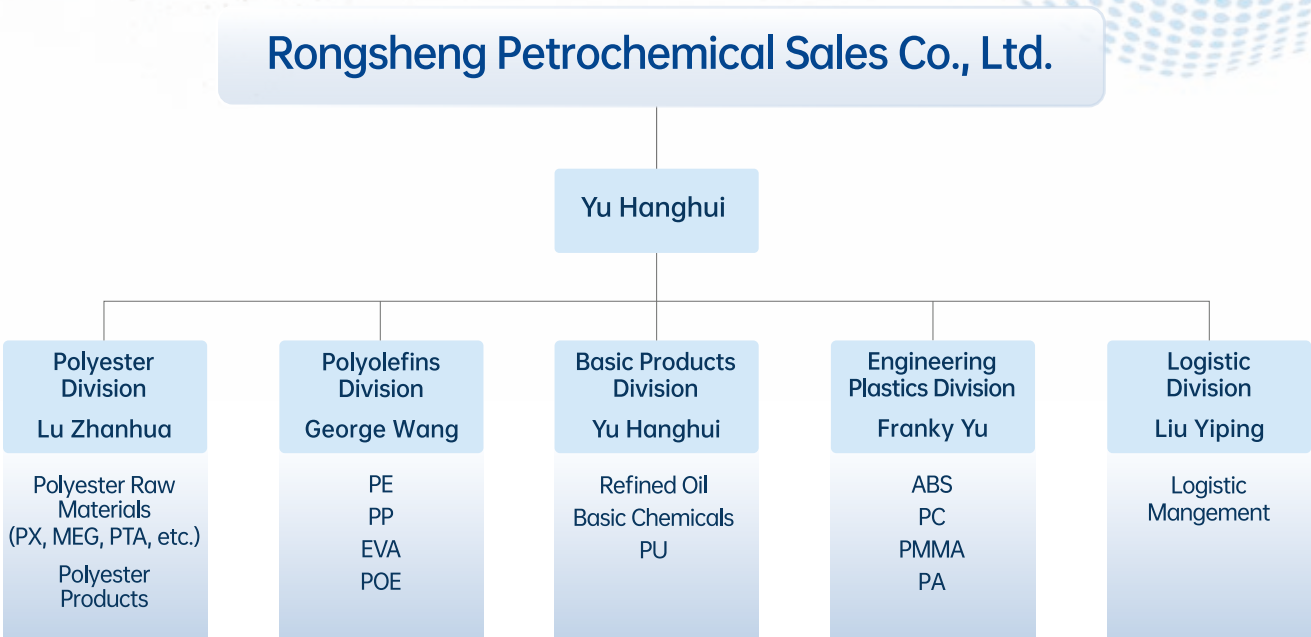
Annual Operating Revenue
RMB 300+ Billion

Global Most Valuable Chemical Brands
#5

Global Chemical Billion-Dollar Club
#7

Global Top 100 Chemical Enterprises
#9

MSCI ESG Rating
A



聚丙烯 Polypropylene (PP)

聚丙烯是以丙烯($\text{CH}_3\text{-CH=CH}_2$)为单体, H_2 为分子量调节剂, 通过聚合反应得到的合成树脂, 存在等规、无规和间规三种不同立体结构。

Polypropylene is a synthetic resin made by polymerization of propylene ($\text{CH}_3\text{-CH=CH}_2$) with H_2 as the molecular weight modifier. There are three stereomers of PP-isotactic, atactic and syndiotactic.

聚丙烯不含极性基团, 具有优良的电绝缘性能, 吸水率小于 0.01%; 为半结晶性聚合物, 具有优良的化学稳定性, 除强氧化剂外, 对大多数化学药品都是稳定的, 无机酸、碱、盐的溶液对聚丙烯几乎无破坏作用。

PP contains no polar groups and has excellent electrical insulation properties. It's water absorption rate is less than 0.01%. PP is a semi-crystalline polymer with good chemical stability. It is stable to most chemical except strong oxidizers. Inorganic acid, alkali and salt solutions have almost no damaging effect on PP.

聚丙烯具有优异的延展性、抗弯曲疲劳性能和耐热性能, 比重轻, 聚丙烯熔点在 165°C 左右, 抗张强度和表面硬度较高, 连续使用温度可达 120°C , 耐环境应力开裂性能好。

PP has good heat resistance and low density. It's melting point is at around 165°C . It has high tensile strength, surface hardness and good environmental stress crack resistance. It can withstand 120°C continuously.

浙石化(一期)PP 装置采用 INEOS 的 Innovene 气相聚丙烯工艺技术, 总生产能力为 90 万吨 / 年。装置由两条平行生产线组成, 单线生产能力均为 45 万吨 / 年, 可生产均聚物、无规共聚物和抗冲共聚物, 特别是可生产刚性和抗冲击性非常好的高质量共聚产品。

Zhejiang Petrochemical Phase I has two sets of polypropylene(PP) plants, with designed each capacity of 450,000 tons, and total capacity of 900,000 tons per year, which are selected INEOS' s INNOVENE process, can produce all series of PP products, such as homopolymer, random copolymer, and impact copolymer PP, especially high quality copolymer products with excellent rigidity and impact resistance.

浙石化(二期)PP 装置采用 LyondellBasell 的 Spherizone 聚丙烯工艺技术, 总生产能力为 90 万吨 / 年。装置由两条平行生产线组成, 单线生产能力均为 45 万吨 / 年, 由多区循环反应器与气相反应器串联操作, 可生产均聚物、无规共聚物和抗冲共聚物全类产品。生产产品分子量分布、等规度、共聚物组成等高度可控, 各类产品综合性能比传统产品更好, 能够生产高刚性、高结晶性产品和抗冲击性、刚性很好的抗冲共聚物产品。

Phase II has two sets of polypropylene(PP) plants, with designed each capacity of 450,000 tons, and total capacity of 900,000 tons per year, which are selected LyondellBasell' s Spherizone process, taking the series connection of multizone circulating reactor and gas phase reactor, can produce all series of PP products, such as homopolymer, random copolymer, and impact copolymer PP. Compared with traditional ones, Phase II makes great progress in producing high quality copolymer products with excellent rigidity and impact resistance, with highly controllable capacity in molecular weight distribution, degree of isotacticity and copolymer composition.

主要用途 Applications

聚丙烯用途广泛多样, 可用注塑、挤塑、吹塑和中空成型等方法进行加工, 广泛应用于纺织、包装、家电、汽车和建筑等行业。

PP has a variety of applications. It is suitable for multiple processing methods such as injection molding, extrusion molding and blow molding and is widely used in the textile, packaging, electrical household appliances, automobile and real estate industries.

均聚类 Homopolymer

产品牌号 Grades		S1003	HP550J	S2040/HP565S	HP500N	HP500P	HP525J	HP552R	HP648T HP648ET	HP840N
熔体质量流动速率 (MFR2.16kg)	g/10min	3	3	37	12	17	3	25	70	10-14
拉伸屈服强度 Tensile strength at yield	MPa $\geq$	30	29	29	30	29	29	30	30	30
弯曲模量 Flexural modulus	MPa $\geq$	1000	报告	1000	1200	1200	实测	1000	1400	1700
简支梁冲击强度 23°C Charpy impact strength	KJ/ $\text{m}^2 \geq$	2	3	1	2	1.7	3	实测	1.5	2
等规指数 Isotactic index	%	95.0 ~ 99.0	95.0 ~ 99.0	-	≥ 95	≥ 95	95.0-99.0	≥ 95	-	-
灰份 Ash	% $\leq$	-	-	0.022	-	-	0.04	-	0.04	-
主要用途 Applications		挤出扁丝、地毯背衬、 彩条布、编织袋 Extruded filaments, Carpet backing cloth, Color band cloth, Polypropylene(PP) knitted bag		超细旦纤维、 无纺布 Ultra-fine staple fibers, Non-woven fabrics	注塑 Injection Molding	注塑 Injection Molding	双向拉伸聚丙烯 薄膜 Biaxially oriented polypropylene film	高速纺丝、 BCF 膨体纱 Ultra-fine Staple Fibers, BCF Filament	薄壁容器、食 物托盘 Thin-walled vessels, Food tray	注塑 Injection Molding



无规共聚类 Random Copolymers

产品牌号 Grades		T4401/H5416	K4912	K4826	K4840	K4860
熔体质量流动速率 (MFR2.16kg)	g/10min	0.275	12	25	35-45	52-68
拉伸屈服强度 Tensile strength at yield	MPa $\geq$	20	26	24	22	22
拉伸断裂标称应变 Stretching broken column nominal strain	% $\geq$	300	-	-	实测	实测
弯曲模量 Flexural modulus	MPa $\geq$	620	900	800	850	800
简支梁冲击强度 23℃ Charpy impact strength	KJ/ m ² $\geq$	35	3.5	3	2	2
热变形温度 (0.45MPa) Heat deflection temperature	℃ $\geq$	60	-	-	实测	实测
主要用途 Applications		冷 / 热水管 Cold or hot water pipes	透明料 Transparent material	透明料 Transparent material	透明料 Transparent material	透明料 Transparent material

嵌段共聚类 Block Copolymers

产品牌号 Grades		K8003	K8009	EP300H	EP300M	K9928H	EP548R	EP648U
熔体质量流动速率 (MFR2.16kg)	g/10min	2.5	10	1.8	10	30	30	54-70
拉伸屈服强度 Tensile Strength at yeid	MPa $\geq$	20	17	20	17	20	20	26
弯曲模量 Flexural modulus	MPa $\geq$	850	800	850	800	1000	1000	1450
简支梁冲击强度 23℃ Charpy impact strength	KJ/ m ² $\geq$	实测	40	实测	9	8	6	4
简支梁冲击强度 -20℃ Charpy impact strength	KJ/ m ² $\geq$	5	-	5	实测	实测	实测	实测
主要用途 Applications		玩具、蓄电池外壳、家电部件、汽车部件 Toys, Shells of storage batteries, Household appliances, Automotive parts	家用电器、包装用品 Household Appliances, Packages	高抗冲器具、汽车部件 High-impact, Devices, Automotive Parts, machine barrel and parts	家用电器、包装用品 Household Appliances, Packages	高抗冲器具、汽车、家电部件、洗衣机料 High-impact devices, Automotive and Household appliances parts, Washing machine barrel and parts		汽车改性、日用品 Automotive modification, Daily necessities

高密度聚乙烯 High-density Polyethylene (HDPE)

高密度聚乙烯是一种由乙烯与少量 α -烯烃单体共聚而成的高结晶非极性合成树脂，其分子结构主要为线型结构，分子中支链少，结晶度高，密度大，具有较高的使用温度、硬度和机械强度，耐化学性能好。

HDPE is a highly crystalline non-polar thermoplastic resin produced through the copolymerization of ethylene and a small amount of α -olefin monomer. HDPE is mainly a linear molecular structure and has little branching. It has a high degree of crystallization and high density. It can withstand high temperatures and has good rigidity and mechanical strength and anti-chemical corrosion.

浙江石化一期高密度聚乙烯装置采用 INNOVENE S 双环管淤浆工艺，设计产能为 30 万吨 / 年；二期高密度聚乙烯装置采用 Hostalen ACP 釜式淤浆法工艺，设计产能为 35 万吨。浙石化高密度聚乙烯产品类别齐全，能够提供中空、管材、膜料、注塑和拉丝等产品。

Zhejiang Petrochemical Phase I has selected INOES' s INNOVENE S process of double-loop slurry technology, with the capacity of 300,000 tons per year, and Phase II has selected LyondellBasell' s Hostalen ACP process of kettle type slurry technology, with the capacity of 350,000 tons per year, which are designed to produce high performance and multitype HDPE resins, including blow molding, piping, film, injection and yarn grade, etc.

主要用途 Applications

高密度聚乙烯可应用于多种塑料成型方法。注塑成型制作各种盆、桶、筐等日用盛器、日用杂品和家具等；中空吹塑法可用于制作各种瓶、桶、罐及工业用槽等容器；挤出成型制作各种管材和单丝等。

HDPE is suitable for many plastic molding methods. Injection molding is used for making various containers and goods of daily use, such as basins, barrels and furniture. Blow molding can be used for making various types of bottles, barrels, cans and industrial tanks. Extrusion molding is used for making pipes and single filaments.



薄膜级 Film Grade

产品牌号 Grades			ACP 9255B
熔体质量流动速率 (MFR21.6kg)		g/10min	10.5
密度 Density		g/cm ³	0.954
拉伸断裂强力 Tensile Strength at Break	纵向 MD	MPa $\geq$	65
	横向 TD	MPa $\geq$	50
断裂伸长率 Elongation at break	纵向 MD	% $\geq$	450
	横向 TD	% $\geq$	470
落镖冲击强度 Fall darts impact strength		g $\geq$	200
主要用途 Applications			T 恤袋、购物袋和衬垫 T-shirt bags, Shopping bags and Liners

注塑级 Injection Molding Grade

产品牌号 Grades		GC7260	T60-800	DMDA-8008
熔体质量流动速率 (MFR2.16kg)	g/10min	8.5	8.5	7.25
密度 Density	g/cm ³	0.959	0.961	0.956
拉伸屈服应力 Tensile strength at yield	MPa≥	23	22	25
拉伸断裂应力 Stretching broken column nominal strain	MPa≥	-	-	10
拉伸断裂标称应变 Stretching broken column nominal strain	%≥	实测	-	600
简支梁缺口冲击强度 Charpy notched impact strength	KJ/ m ² ≥	实测	5	实测
主要用途 Applications		板条箱、容器、箱柜 Crates, Containers, Cabinets		

中空级 Blow Molding Grade

产品牌号 Grades		HD5502S	HD5502L	HM5411EA	HM4560UA
熔体质量流动速率 (MFR)	g/10min	0.2(2.16kg)	0.2(2.16kg)	10(21.6kg)	6.3(21.6kg)
密度 Density	g/cm ³	0.954	0.954	0.952	0.945
拉伸屈服应力 Tensile Strength at yield	MPa≥	22	22	22	≥20.0
拉伸断裂标称应变 Stretching broken column nominal strain	%≥	实测	实测	实测	≥600
弯曲模量 Flexural Modulus	MPa≥	800	800	800	实测
环境应力开裂时间 ESCR	h≥	20	20	130	
黄色指数 Yellow index		≤4	≤2		≤4
主要用途 Applications		20L 以下的包装容器 Packaging container below 20L		60L 以下的包装容器 Packaging container below 60L	IBC 吨桶 IBC tons of barrels

管材级 Pipe Grade

产品牌号 Grades		23050	PN049 -030-122	23050LS	DGDZm-3606
熔体质量流动速率 (MFR)	g/10min	0.23(5kg)	0.3(5kg)	0.18(5kg)	0.6(2.16kg)
密度 Density	g/cm ³	0.95	0.949	0.95	0.936
拉伸断裂伸长率 Tensile strain at break	%	≥500	实测	≥400	≥500
拉伸屈服应力 Tensile Strength at yield	MPa	≥20	≥20	实测	≥15
简支梁缺口冲击强度 Charpy notched impact strength	KJ/m ²	≥23	≥21	实测	≥25.0
氧化诱导时间 OIT	min	≥30	≥35	≥30	≥40
弯曲模量 Flexural modulus	MPa	-	-	-	≥450
主要用途 Applications		PE100 双峰管材 PE100 bimodal pipe		PE100 大口径管材 PE100 larger diameter pipe	I 型地暖管材 Type I underfloor heating pipes

高压低密度聚乙烯 High-pressure Low-density Polyethylene (LDPE)

浙江石油化工有限公司的高压聚乙烯联合装置包含 30 万吨 / 年 LDPE-EVA 和 40 万吨 / 年 LDPE 两套装置, 引进 LDPE 树脂 15 个牌号、EVA 树脂 11 个牌号, 可以生产密度 $0.920 \sim 0.927 \text{ g/cm}^3$ 的 LDPE 产品, 以及 VA 含量从 3~28%、MI 从 0.8~36 的高端 EVA 产品, 可用于包装、软管、印刷、电缆、光伏、鞋类及服装等行业。

The High pressure polyethylene integrated unit of Zhejiang Petroleum and Chemical Co., Ltd. contains two sets of devices: 300,000 tons/year LDPE-EVA and 400,000 tons/year LDPE. This set of equipment introduces 15 grades of LDPE resin and 11 grades of EVA resin. It can produce LDPE products with a density of $0.920 \sim 0.927 \text{ g/cm}^3$, and high-end EVA products with a VA content of 3~28% and MI from 0.8~36. the products can be used in packaging, hose, printing, cable, photovoltaic, footwear and clothing industries.

LDPE 产品说明 Product Description

聚乙烯树脂是一种具有多种结构和特性, 多个品种牌号的热塑性通用树脂, 是三大通用材料之一。它主要有高压低密度聚乙烯(LDPE), 低压高密度聚乙烯(HDPE), 线性低密度聚乙烯(LLDPE)等以乙烯为主要单体的各种均聚或共聚物。

Polyethylene resin is a kind of thermoplastic general-purpose resin with multiple structures and characteristics, multiple varieties and brands, and is one of the three general-purpose materials. It mainly includes high-pressure low-density polyethylene (LDPE), low-pressure high-density polyethylene (HDPE), linear low-density polyethylene (LLDPE) and various homopolymers or copolymers with ethylene as the main monomer.

高压低密度聚乙烯(LDPE)是 $-(\text{CH}_2-\text{CH}_2)-$ 基连结的热塑性塑料, LDPE 具有刚性, 但不硬也不脆, 稍有蜡感, 这类树脂密度为 $0.910 \sim 0.935 \text{ g/cm}^3$ 。存在许多短支链是 LDPE 的特征, 1000 个碳原子链中含有 15-30 个短支链。由于 LDPE 线性结构很不规则, 降低了对称性, 因此降低了链的敛集能力。这些结构导致密度降低, 同时相应降低了结晶度, 典型 LDPE 的结晶度大约为 50%, LDPE 的分子量约为 10×10^4 到 50×10^4 。因其无毒, 可作为医疗器具、药物、食品、玩具和农作物的包装材料。

High-pressure low-density polyethylene (LDPE) is a $-(\text{CH}_2-\text{CH}_2)-$ -based thermoplastic. LDPE is a thermoplastic that is rigid, but not hard or brittle, and has a slightly waxy feel. The density of this type of resin is $0.910 \sim 0.935 \text{ g/cm}^3$. LDPE is characterized by the presence of many short branched chains, with 15-30 short branched chains in 1000 carbon atoms. Due to the irregular linear structure of LDPE, the symmetry is reduced, thus reducing the chain's convergence ability. These structures result in a decrease in density and a corresponding decrease in crystallinity. A typical LDPE's crystallinity is about 50%, and the molecular weight of LDPE is about 10×10^4 to 50×10^4 . Because it is non-toxic, it can be used as packaging materials for medical devices, medicines, food, toys and crops.



LDPE 产品质量性能 Product Quality Performance

无毒, 软化点较低, 其热熔接性、成型加工性能良好, 柔软性良好, 抗冲击韧性、耐低温性很好, 可在 $-60 \sim -80^\circ\text{C}$ 间工作, 电绝缘性优良 (尤其是高频绝缘性)。

Non-toxic, low softening point, good thermal weldability, molding processability, good flexibility, impact resistance, and low temperature resistance; can work between -60 and -80°C , and has excellent electrical insulation (especially High frequency insulation).

LDPE 的力学强度较差, 耐热性差, 抗环境应力开裂性、黏附性、黏合性、印刷性差, 需经表面处理, 如化学侵蚀、电晕等处理后方可改进其黏性、印刷性。吸水性很低 (几乎不吸水)。化学稳定性优良, 如对酸、碱、盐、有机溶剂都较稳定。对水蒸气、空气的渗透性差。易燃烧, 燃烧时有似石蜡味。在光和热作用下容易老化降解而变色, 由白转黄转褐色, 最终呈黑色, 且性能下降或龟裂。若加入一定量的抗氧化剂、紫外线吸收剂可改善性能。在化学交联剂或高能辐照下交联, 可提高软化点、温性、刚度、耐溶剂性等。适合热塑性成型加工的各种成型工艺, 成型加工性好, 如注塑、挤塑、吹塑、旋转成型、涂裹泡、热成型、热风焊、热焊接等。

LDPE has poor mechanical strength, poor heat resistance, poor environmental stress crack resistance, adhesiveness, adhesion, and printability. Also, it has very low water absorption (almost no water absorption). LDPE has excellent chemical stability, such as relatively stable to acids, alkalis, salts, and organic solvents, but has poor permeability to water vapor and air. LDPE is easy to burn and has a paraffin-like smell when burning. It is prone to degradation and discoloration under the action of light and heat, from white to yellow to brown, and finally to black, with reduced performance or cracks. Adding a certain amount of antioxidants and UV absorbers can improve performance. LDPE is cross-linked under chemical cross-linking agent or high-energy radiation to improve softening point, temperature resistance, stiffness, solvent resistance, etc. LDPE is suitable for various molding processes of thermoplastic molding and has good molding processability, such as injection molding, extrusion molding, blow molding, rotational molding, coating foam, thermoforming, hot air welding, thermal welding, etc.

LDPE 产品主要应用 Main Application

主要用途是作薄膜产品,如农业用薄膜、地面裹膜、蔬菜大棚膜等;包装用膜如糖果、蔬菜、冷冻食品等包装;液体包装用吹塑薄膜(牛奶、酱油、果汁、豆腐、豆奶);重包收缩包装薄膜;弹性薄膜;内衬薄膜;建筑用薄膜一般工业薄膜和食品袋等。

The main purpose is to make film products, such as agricultural film, ground coating film, vegetable greenhouse film, etc.; packaging film such as candy, vegetables, frozen food, etc.; blown film for liquid packaging (milk, soy sauce, juice, tofu), Soy milk); heavy-pack shrink packaging film; elastic film; lining film; construction film, general industrial film and food bag, etc.

LDPE 还用于注塑制品,如小型容器、盖子、日用制品、注塑→拉伸→吹塑容器、医疗器具、药品和食品包装材料的管材、板材、电线电缆包覆、异型材、热成型等制品;吹塑成型制品,如食品容器有奶制品和果酱类,药物、化妆品、食品容器以及钙塑板、泡沫塑料等;旋转成型滚塑制品主要用品容器和贮槽。

It is also used for injection molding products, such as small containers, LIDS, daily products, injection molding → stretching → blow molding containers, medical appliances, medicine and food packaging materials of pipe, plate, wire and cable claddings, profiles, thermal molding products; blow-molded products, such as food containers such as dairy products and jams, medicines, cosmetics, food containers, calcium plastic panels, foam plastics, etc.; rotation-molded rotomolding products are mainly used in containers and storage tanks.



产品牌号 Grades		2420D	2420H	2426H	2426K	2220H
色粒 Color grain	个 /KG	≤2	≤2	≤2	≤2	≤2
熔体质量流动速率 (MFR 190°C/2.16kg)	g/10min	0.25-0.35	1.7-2.2	1.7-2.2	3.7-4.3	1.8-2.2
密度(23°C) Density (23°C)	%	0.922-0.925	0.922-0.926	0.922-0.926	0.922-0.926	0.918-0.921
维卡软化点温度 Vicat Softening Point	°C	97	94	94	94	
熔点温度 Melting Point	°C	111	111	111	111	
拉伸屈服应力 Tensile yield stress	Mpa	≥9.5				
拉伸断裂应力 Tensile break stress	Mpa	≥12.5	≥10	≥10	≥10	≥10
拉伸断裂应变 Stretching broken strain	%	≥400	≥60	≥60	≥60	≥75
晶点 (≥400um) Crystal Point(≥400um)	个 /1200cm ²	≤15	≤15	≤15	≤15	
雾度 Haze	%	≤15	≤9	≤9	≤9	
介质损耗因数 tan δ Dielectric loss factor						≤0.0003
介电常数 ε Permittivity	C ² /(N·M ²)					≤2.35

线型低密度聚乙烯 Linear Low-density Polyethylene (LLDPE)

线型低密度聚乙烯是由乙烯与高级 α -烯烃（如丁烯-1、己烯-1）在低压下聚合而获得的合成树脂，是含短支链的中低密度聚乙烯，产品分子量分布较窄。

Linear low-density polyethylene (LLDPE) is a copolymer produced by polymerization of ethylene and α -olefin (such as butene-1, hexene-1) at low pressure. It is low and medium density polyethylene with short chains branching. LLDPE has a narrow molecular weight distribution.

浙江石化一期、二期 LLDPE 装置设计生产能力均为 45 万吨 / 年，总生产能力为 90 万吨一年，采用美国 Univation 公司的 Unipol 工艺技术(低压气相流化床工艺)，产品具有较高的拉伸强度、冲击强度，优异的耐穿刺性及耐低温冲击性能。

The design production capacity of Zhejiang Petrochemical Phase I and Phase II LLDPE plants is 450,000 tons/year, and the total production capacity is 900,000 tons per year, this LLDPE Plant has selected the Unipol process (low pressure gas-phase fluidized bed technology) of US Univation company, The product has strong tensile and impact strength and excellent properties to resist puncture and impact at low temperatures.

主要用途 Applications

主要用于制作薄膜、注塑成型制品、旋转成型制品及电线电缆包覆材料等。

LLDPE is mainly used for making film injection-molding products, rotationally-molding products and wire & cable covering material.



薄膜级 Flim Grade

产品牌号 Grades		DFDA7042	DFDC7050	DFDA7047
熔体质量流动速率 MFR	g/10min	2	2	1
密度 Density	g/cm ³	0.92	0.92	0.92
拉伸屈服应力 Tensile Strength at yield	MPa $\geq$	7	8	12
拉伸断裂标称应变 Stretching broken column nominal strain	% $\geq$	200	400	500
拉伸断裂应力 Tensile Strength at broken	MPa $\geq$			
鱼眼 (个 /1520cm ²) Fish Eyes (pcs/1520cm ²)	0.8mm $\leq$	8	6	6
	0.4mm $\leq$	20	15	15
主要用途 Applications		包装膜、农地膜、衬里膜 Packaging film, Agricultural film, Lining film	包装袋 Packing bag	包装膜、农地膜、衬里膜 Packaging film, Agricultural film, Lining film

注塑级 Injection Molding Grade

产品牌号 Grades		DNDA8320
熔体质量流动速率 MFR	g/10min	20
密度 Density	g/cm ³	0.924
拉伸屈服应力 Tensile Strength at yield	MPa≥	7
拉伸断裂标称应变 Stretching broken column nominal strain	%≥	150
简支梁冲击强度 23℃ Charpy Impact Strength	KJ/m ² ≥	53
主要用途 Applications		高档日常用品、垃圾箱、容器 High-end daily necessities, Garbage bins and Containers

滚塑级 Rotomolding Grade

产品牌号 Grades		DNDB7149U
熔体质量流动速率 MFR	g/10min	5
密度 Density	g/cm ³	0.935
拉伸屈服应力 Tensile Strength at yield	MPa≥	12
拉伸断裂标称应变 Stretching broken column nominal strain	%≥	200
简支梁冲击强度 23℃ Charpy Impact Strength	KJ/m ² ≥	40
主要用途 Applications		储罐、搅拌桶、水箱 Tanks, Mixing drums, Water tanks

可交联聚乙烯 Cross-linkable Polyethylene Insulation (XLPE)

化学交联聚乙烯绝缘料是以低密度聚乙烯为主要原料，加入抗氧剂、过氧化物交联剂等助剂，经混炼、造粒而成。浙江石油化工有限公司的交联聚乙烯装置产品主要有五种型号：YJZ-10、YJZ-35、YJZ-66、YJZ-110、YJZ-220。

Peroxide Cross-linkable Insulation is made mainly by low density polyethylene resin, together with proper additives such as crosslinkable agent, anti-oxidant and etc, through mixing and granulating. Main products are the following five types: YJZ-10、YJZ-35、YJZ-66、YJZ-110、YJZ-220.

浙江石油化工有限公司的交联聚乙烯装置采用德国科倍隆设备，年产能达 8 万吨，为目前国内最大单套交联聚乙烯生产线。装置原料来源于浙石化 LDPE 装置管道输送，最大程度保证了生产及包装过程的洁净度。

The Cross-linkable polyethylene unit of Zhejiang Petrochemical Co., Ltd. adopts the German Coperion equipment, with an annual production capacity of 80000 tons, which is currently the largest single set of cross-linked polyethylene production line in China. The raw materials for the device come from the pipeline transportation of the Zhejiang Petrochemical LDPE device, ensuring the cleanliness of the production and packaging processes to the greatest extent possible.

交联聚乙烯的主要下游为各个电压等级的电缆，交联聚乙烯电缆具有更好的物理性能和化学性能。交联聚乙烯电力电缆的绝缘性能更佳，在高温和高电压环境下能够更好地保持其性能，同时其材料耐磨损、抗老化等方面的特点也使得其在实际应用中更加稳定可靠。

The main downstream of cross-linkable polyethylene is cables of various voltage levels, and cross-linked polyethylene cables have better physical and chemical properties. The XLPE power cable has better insulation performance, and can better maintain its performance under high temperature and high voltage environment. At the same time, its material characteristics such as abrasion resistance and anti-aging also make it more stable and reliable in practical application.



产品型号及用途 Product Type and Usage

型号 Type	用途 Usage
YJZ-10	10kV 及以下电线电缆用可交联聚乙烯绝缘料 Crosslinkable polyethylene insulation material for wires and cables up to 10kV
YJZ-35	35kV 及以下电线电缆用可交联聚乙烯绝缘料 Crosslinkable polyethylene insulation material for wires and cables up to 35kV
YJZ-66	66kV 及以下电线电缆用可交联聚乙烯绝缘料 Crosslinkable polyethylene insulation material for wires and cables up to 66kV
YJZ-110	110kV 及以下电线电缆用可交联聚乙烯绝缘料 Crosslinkable polyethylene insulation material for wires and cables up to 110kV
YJZ-220	220kV 及以下电线电缆用可交联聚乙烯绝缘料 Crosslinkable polyethylene insulation material for wires and cables up to 220kV

序号NO.	实验项目Property		单位Unit	YJZ-10	YJZ-35	YJZ-66	YJZ-110	YJZ-220
1	拉伸强度, 最小Tensile Strength,Min		Mpa	13.5	13.5	17	17	17
2	断裂伸长率, 最小Elongation,Min		%	350	350	500	500	500
3	空气热老化 (Oven Aging) 135°C, 168h	拉伸强度变化率, 最大 Retention of Tensile Strength,Max	%	±20	±20	±20	±20	±20
		断裂伸长率变化率, 最大 Retention of Elongation,Max	%	±20	±20	±20	±20	±20
4	热延伸 (Hot Set Test) 200°C、0.2MPa、15min	热延伸, 最大Hot Elongation,Max	%	80	80	80	80	80
		永久变形率, 最大Set Elongation,Max	%	5	5	5	5	5
5	介质损耗因数, 最大Dissipation Factor,Max		\	5×10^{-4}	5×10^{-4}	3×10^{-4}	3×10^{-4}	3×10^{-4}
6	相对介电常数, 最大Dielectric Constant,Max		\	2.35	2.35	2.35	2.35	2.35
7	体积电阻率, 最小DC Volume Resistivity,Min		$\Omega \cdot m$	1×10^{14}	1×10^{14}	1×10^{14}	1×10^{14}	1×10^{14}
8	介电强度, 最小Dielectric Strength ,Min		MV/m	25	25	35	35	40
9	凝胶含量, 最小Degree of Crosslinking,Min		%	80	80	82	82	82
10	杂质含量Impurity Diameter	$50\mu m \leq d < 100\mu m$,最大允许数量Max	个/kg(EA/kg)	\	\	100	50	25
		$100\mu m \leq d < 125\mu m$,最大允许数量Max	个/kg(EA/kg)	\	\	10	0	0
		$125\mu m \leq d < 175\mu m$,最大允许数量Max	个/kg(EA/kg)	\	\	0	0	0
		$175\mu m \leq d < 250\mu m$,最大允许数量Max	个/kg(EA/kg)	10	5	0	0	0
		$250\mu m \leq d < 500\mu m$,最大允许数量Max	个/kg(EA/kg)	5	0	0	0	0
		$d > 500\mu m$,最大允许数量Max	个/kg(EA/kg)	0	0	0	0	0

包装、储存

- (1) 产品为 PE 内包装袋, 外包装八角箱后用缠绕膜套膜带托;
 (2) 在清洁、干燥、通风环境中, 未开封条件下在 10-35°C 可储存 1 年。

Storage: The product has a shelf life of 12 months from production date if stored in unopened original packages, under dry and clean conditions at temperatures between 10-35 °C. Material shelf life is affected by storage conditions and extreme conditions influence the general material quality and performance. Before use, material shall be conditioned indoors (production room) at the ambient temperature. It is also recommended to ensure proper stock rotation by First In - First Out principles.

Packaging: Package: octabins (1050kg), smallbins (600kg)

超高分子量聚乙烯 Ultra-high Molecular Weight Polyethylene (UHMWPE)

超高分子量聚乙烯一般指黏均分子量 100 万以上的线性长链聚乙烯，具有耐磨性、自润滑性、高抗冲击性、耐化学腐蚀、电气绝缘性等性能。

UHMWPE refers to linear long-chain polyethylene with a viscosity-average molecular weight of over one million. It has properties such as wear resistance, self-lubrication, high impact resistance, chemical corrosion resistance, and electrical insulation.

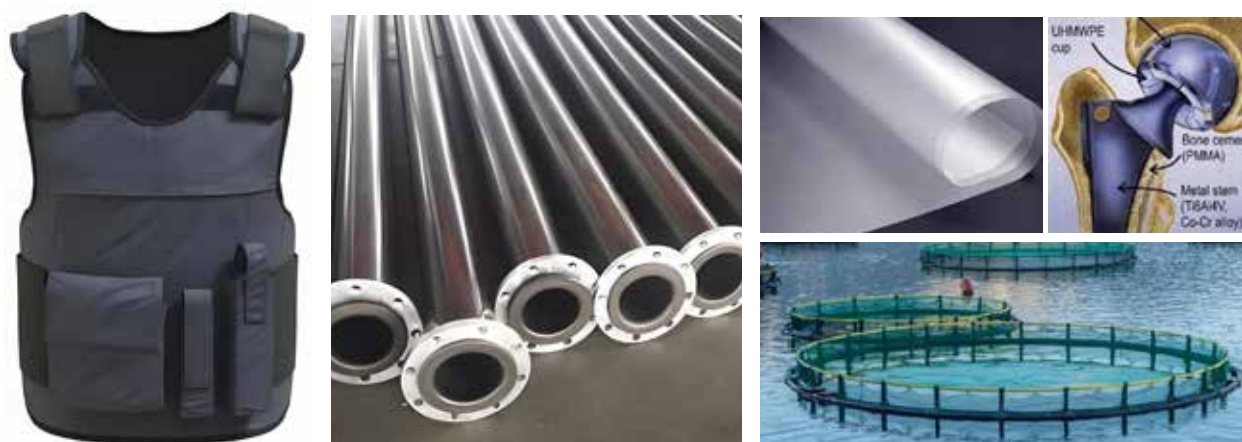
荣盛石化金塘新材料项目共有 2 套 UHMWPE 装置，总产能为 10 万吨 / 年，超高分子量聚乙烯按用途分类，可分为通用级、纤维级、管材级和电池隔膜级等。

Jintang New Materials Project of Rongsheng Petrochemical has two UHMWPE units, with a total annual production capacity of 100,000 tons. UHMWPE can be classified into general-purpose grade, fiber grade, pipe grade, and battery separator grade based on its application.

主要用途 Applications

超高分子量聚乙烯凭借其优异的性能，广泛应用于多个领域：航空航天部件、国防军工的防弹装备、耐腐蚀的管道、海洋产业的线缆和渔网、锂电池隔膜、人工关节等。

UHMWPE by virtue of its excellent properties, is widely used in many fields: aerospace components, bulletproof equipment in national defense and military industry, corrosion-resistant pipelines, cables and fishing nets in the marine industry, lithium battery separators, artificial joints, etc.



通用级 General-purpose Grade

产品牌号 Grades	单位 Unit	JUE-1150	JUE-1250	JUE-1350
黏均分子量 M_{η}	10^4	100 ~ 200	200 ~ 300	300 ~ 400
密度 Density	g/cm^3	0.930 ~ 0.940	0.930 ~ 0.940	0.930 ~ 0.940
表观密度 Surface density	g/cm^3	≥ 0.40	≥ 0.40	≥ 0.40
筛余物(质量分数) Residue (mass fraction)	%	≤ 2.0	≤ 2.0	≤ 2.0
杂色粒子数 Number of colored particles	个 /100 格	≤ 40	≤ 40	≤ 40

纤维级 Fiber Grade

产品牌号 Grades	单位 Unit	JUE-2325	JUE-2380	JUE-2425	JUE-2475	JUE-2500
黏均分子量 M _η	10 ⁴	300 ~ 350	360 ~ 400	400 ~ 450	450 ~ 500	500 ~ 1000
密度 Density	g/cm ³	0.930 ~ 0.940	0.930 ~ 0.940	0.930 ~ 0.940	0.930 ~ 0.940	0.930 ~ 0.940
表观密度 Surface density	g/cm ³	0.35 ~ 0.45	0.35 ~ 0.45	0.35 ~ 0.45	0.35 ~ 0.45	0.35 ~ 0.45
筛余物(质量分数) Residue (mass fraction)	%	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0
杂色粒子数 Number of colored particles	个 /100 格	≤20	≤20	≤20	≤20	≤20

管材级 Pipe Grade

产品牌号 Grades	单位 Unit	JUE-3100	JUE-3375
黏均分子量 M _η	10 ⁴	80 ~ 120	350 ~ 400
密度 Density	g/cm ³	0.930 ~ 0.940	0.930 ~ 0.940
表观密度 Surface density	g/cm ³	≥0.40	≥0.40
筛余物(质量分数) Residue (mass fraction)	%	≤2.0	≤2.0
杂色粒子数 Number of colored particles	个 /100 格	≤40	≤40

电池隔膜级 Battery Separator Grade

产品牌号 Grades	单位 Unit	JUE-4050	JUE-4060	JUE-4080	JUE-4170
黏均分子量 M _η	10 ⁴	40 ~ 60	50 ~ 70	60 ~ 100	150 ~ 190
密度 Density	g/cm ³	0.940 ~ 0.950	0.940 ~ 0.950	0.940 ~ 0.950	0.940 ~ 0.950
表观密度 Surface density	g/cm ³	0.35 ~ 0.45	0.35 ~ 0.45	0.35 ~ 0.45	0.35 ~ 0.45
筛余物(质量分数) Residue (mass fraction)	%	≤2.0	≤2.0	≤2.0	≤2.0
杂色粒子数 Number of colored particles	个 /100 格	≤20	≤20	≤20	≤20

聚碳酸酯

Polycarbonate (PC)



产品简介 Introduction

聚碳酸酯（简称 PC）是指分子链中含有碳酸酯基（-COO-）的非结晶型热塑性高分子聚合物。是一种综合性能非常优异的热塑性工程塑料，其在力学、光学及热性能上的优异表现使其同时具有高抗冲、高透明、高耐热三大特性，属于耐用型工程塑料。

Polycarbonate (abbreviated as PC) refers to a non-crystalline thermoplastic high molecular polymer containing a carbonate group (-COO-) in a molecular chain. It is a thermoplastic engineering plastic with excellent comprehensive performance. Its excellent performance in mechanical, optical and thermal properties makes it have three characteristics of high impact resistance, high transparency and high heat resistance. It is a durable engineering plastic.

产品特性 Characteristics

- (1) 产品兼具透明、强韧、耐热、阻燃四大综合特性
The product has four comprehensive characteristics of transparency, toughness, heat resistance and flame retardancy.
- (2) 使用温度范围广，在 -100°C~129°C 的温度范围内仍可保持稳定的性能
Wide temperature range, stable performance over the temperature range of -100 °C ~ 129 °C
- (3) 热变形温度高
High heat reflection temperature
- (4) 成型收缩率低，尺寸稳定性良好
Low molding shrinkage and good dimensional stability
- (5) 电气特性优良
Excellent electrical characteristics

装置情况 Plant

浙石化 PC 装置采用绿色环保、国际先进的非光气法工艺技术，可生产熔融指数 5-35 范围内的 PC 产品。PC 总产能 52 万吨 / 年，上游配套 48 万吨 / 年的双酚 A (BPA)，128 万吨 / 年苯酚 / 丙酮以及 20 万吨 / 年的碳酸二甲酯 (DMC) 装置。

Zhejiang Petrochemical PC plant adopts green environmental protection and international advanced non-phosgene process technology to produce PC products with a melt index of 5-35. The total capacity of PC is 520,000 tons/year, with the supporting upstream 480,000 tons/year of bisphenol A (BPA), 128,000 tons/year of phenol/acetone. And a 200,000 tons/year dimethyl carbonate (DMC) unit.

主要用途 Application

作为一种综合性能优异的热塑性工程塑料，浙石化聚碳酸酯产品主要可应用于光学照明、电子电气、汽车、建筑、包装等领域，同时可与其他树脂制成塑料合金，以满足特定领域需求。

As a thermoplastic engineering plastic with excellent comprehensive performance, ZPC polycarbonate products can be mainly used in optical lighting, electrical and electronic, automotive, construction, packaging, etc., and can be made into plastic alloys with other resins to meet specific needs.



性能指标 Quality

测试项目 Test Item	单位 Unit	参考技术指标(暂定) Reference Technical Indicators (tentative)				
		G0713	G1010	G1011	G1013	G2010
焦粒及异色粒子 Pyroparticles and heterochromatic particles	个 One	≤1	≤1	≤1	≤1	≤1
熔体质量流动速率(1.2kg) Melt mass flow rate	g/10min	6.0 ~ 8.0	9.0 ~ 11.0	9.0 ~ 11.0	9.0 ~ 11.0	19.0 ~ 21.0
拉伸屈服应力 Tensile yield stress	MPa	≥60	≥60	≥60	≥60	≥60
拉伸断裂伸长率 Elongation at break	%	≥105	≥105	≥105	≥105	≥105
弯曲模量 Bending modulus	MPa	≥2250	≥2250	≥2250	≥2250	≥2250
悬臂梁缺口冲击强度 23°C Notch impact strength of cantilever beam	KJ/ m ²	≥70	≥65	≥65	≥70	≥60
热变形温度(1.8MPa) Thermal deformation temperature	°C	≥124	≥124	≥124	≥124	≥124
透光率(1mm) Transmittance	%	≥89	≥89	≥89	≥89	≥89
Lab 色度 b 值 Lab chromaticity B	/	-4.0 ~ -2.0	0 ~ 3	-4.0 ~ -2.0	-4.0 ~ -2.0	0 ~ 2
主要用途 Application		挤出级 (板材等) Extrusion	改性 Compounding	通用注塑 Injection molding	抗 UV 注塑 Anti UV	改性 Compounding

地址：浙江省舟山市鱼山绿色石化基地
Address: Yushan green Petroleumchemical base, Zhoushan, Zhejiang Province
网址 (Website): www.zpc-cn.com

聚甲基丙烯酸甲酯 Polymethyl Methacrylate(PMMA)

产品简介 Introduction

聚甲基丙烯酸甲酯 (Polymethyl Methacrylate), 简称 PMMA, 是一种在分子链上含有甲基丙烯酸甲酯重复结构的无定形态高分子聚合物, 具有极为优越的光学性能 又称作: 亚克力, 有机玻璃, 因其高透明度, 耐候性、易加工、美观性等优点, 被誉为“塑料女王”。在现代工业和生活中广泛应用, 尤其是在对光学、耐候性和轻量化有要求的领域内发挥着重要的作用。

Polymethyl Methacrylate (PMMA), also known as acrylic or plexiglass, is a type of amorphous polymer that contains a repeating structure of methacrylate units within its molecular chain. It possesses exceptionally superior optical properties. Known as acrylic, organic glass. Due to the high transparency, weather resistance, ease of processing, and aesthetic qualities, it is known as the “Queen of Plastics.” It is widely used in modern industry and daily life, particularly in fields requiring optical properties, weather resistance, and lightweight features.

产品特性 Characteristics

产品兼具透明、耐候耐老化、耐化学性及机械性能良好等综合特性

Product Characteristics: The product possesses a combination of transparent properties, weather resistance, chemical resistance, and excellent mechanical performance.

- (1) 高透明度和光学性: 透光率可达 92%, 其折射率为 1.49 至 1.56, 适合制造各种光学产品
High transparency and optical properties: The transmittance can be 92%, approaching that of inorganic glass. Its refractive index ranges from 1.49 to 1.56, making it suitable for manufacturing various optical products.
- (2) 耐候性: 具有优良的耐候性, 长时间暴露在户外环境中也能保持透明度和物理性能
Weather Resistance: Exhibits excellent weather resistance, maintaining transparency and physical properties even after prolonged exposure to outdoor conditions.
- (3) 化学稳定性: 对许多化学品具有良好耐受性, 耐受酸、碱、盐、油脂, 但随温度升高而减弱
Chemical stability: Exhibits good tolerance for many chemicals, resistant to acids, bases, salts, and oils, but its resistance diminishes with increasing temperature.
- (4) 良好的机械性能: 机械强度较高, 具有良好的刚性和强度, 但质地较脆
Good mechanical properties: High mechanical strength, excellent rigidity and strength, but relatively brittle in texture.

装置情况 Plant

浙江石油化工有限公司(舟山)采用本体法工艺建设 PMMA 装置, 产品规格以通用料为主, 多样化牌号为辅。项目规划三套装置, 总产能 18 万吨/年, 初期计划生产两个牌号: HI-5、HO-2。预计投产时间 2026 年二季度。上游同期配套 MMA 装置。

Zhejiang Petrochemical Co., Ltd. (Zhoushan) is constructing a PMMA facility using the bulk process method. The product specifications primarily feature generic materials, with a variety of branded products as an auxiliary. The project plans three facilities, with a total capacity of 180,000 tons per year. Initially, it is planned to produce two brands: HI-5 and HO-2. The expected start-up date is the second quarter of 2026. A corresponding MMA facility is also being developed concurrently upstream.

主要用途 Application

作为一种综合性能优异的透明材料, 浙石化 PMMA 产品主要可应用于光学照明、广告展示、交通运输、建筑装饰、包装领域。

As a transparent material with excellent overall performance, Zhejiang Petrochemical's PMMA products can be primarily applied to optical lighting, advertising displays, transportation, building decoration, and packaging area.



性能指标 Quality

项目 Item	检测标准 Standard	单位 Unit	参数指标(暂定) Parameters and Metrics (tentative)	
			HO-2	HI-5
密度 Density	ISO 1183	g/cm ³		≤1.2
全光线透光率(4mm) Total Luminous Transmittance	GB/T 2410-2008	%	93±1	93±1
熔融指数 Melt Flow Rate	GB/T 3682	g/10min	2.0±0.3	5.5±0.3
黄色指数 Yellow Index	GB/T 39822		<0.6	<0.6
含水量 Water Content	ISO 15512	% ≤	0.5	0.5
雾度 Haze	ISO 14782	%	≤0.5	≤0.5
异物 Impurity	小	0.03mm ² ≤x	10	10
	特小	0.01mm ² <x<0.03mm ²	10	10
	极小	x≤0.01mm ²	300	300
简支梁冲击强度 Charpy impact strength	GB/T 1043	kJ/m ²	1.4	1.3
拉伸强度 Tensile strength	ISO 527	Mpa	77±10	71±10
热变形温度 HDT	GB/T 1634	°C	≥95	≥93
维卡软化温度 Vicat Softening Temperature	GB/T 1633	°C	≥100	≥98
粒度 Granularity	GB/T 12010.6	个 /3g	150±15	150±15

地址：浙江省舟山市鱼山绿色石化基地
Address: Yushan green Petroleumchemical base, Zhoushan, Zhejiang Province
网址 (Website): www.zpc-cn.com

乙烯 – 醋酸乙烯酯共聚物 Ethylene-vinyl Acetate Copolymer (EVA)

浙江石油化工有限公司的高压聚乙烯联合装置包含两套 30 万吨 / 年 LDPE-EVA 装置和一套 40 万吨 / 年 LDPE 装置, 引进 LDPE 树脂 15 个牌号、EVA 树脂 11 个牌号, 可以生产密度 0.920~0.927 g/cm³ 的 LDPE 产品, 以及 VA 含量从 3~28%、MI 从 0.8~36 的高端 EVA 产品, 可用于包装、软管、印刷、电缆、光伏、鞋类及服装等行业。

The high-pressure polyethylene complex of Zhejiang Petroleum & Chemical Co., Ltd. comprises two 300,000 tons/year LDPE-EVA units and one 400,000 tons/year LDPE unit. This set of equipment introduces 15 grades of LDPE resin and 11 grades of EVA resin. It can produce LDPE products with a density of 0.920~0.927 g/cm³, and high-end EVA products with a VA content of 3~28% and MI from 0.8~36. The products can be used in packaging, hose, printing, cable, photovoltaic, footwear and clothing industries.

EVA 产品说明 Product Description

乙烯 – 醋酸乙烯酯共聚物 (EVA), 一般醋酸乙烯 (VA) 含量在 5% ~ 40%。与聚乙烯相比, EVA 由于在分子链中引入了醋酸乙烯单体, 从而降低了结晶度, 提高了柔韧性、抗冲击性、填料相溶性和热密封性能, 被广泛应用于发泡鞋料、功能性棚膜、包装膜、热熔胶、电线电缆及玩具等领域。一般来说, EVA 树脂的性能主要取决于分子链上醋酸乙烯的含量。EVA 有很好的耐低温性能, 其热分解温度较低, 约为 230℃ 左右, 随着分子量的增大, EVA 的软化点上升, 加工性和表面光泽性下降, 但强度增加, 抗冲击韧性和耐环境应力开裂性提高。EVA 的耐化学药品、耐油性方面较之 PE, PVC 稍差, 并随醋酸乙烯含量的增加, 差异变化更加明显。EVA 比 LDPE 的性能优异, 主要表现在弹性、柔性、光泽性、透气性等方面, 另外, 它的耐环境应力开裂性得到了提高, 对填料的受容性增大, 可以采用加入较多增强填料的方法来避免或减少 EVA 力学性能差的特性。EVA 还可以通过改性而得到新的应用, 其改性主要可从两个方面考虑: 一是将 EVA 作为其他单体接枝的主干; 二是将 EVA 进行部分醇解。

Ethylene-vinyl acetate copolymer (EVA), generally the content of vinyl acetate (VA) is 5% to 40%. Compared with polyethylene, EVA introduces vinyl acetate monomer into the molecular chain, thereby reducing crystallinity, improving flexibility, impact resistance, filler compatibility and heat sealing performance. These characteristics make EVA widely used in foam shoe materials, functional shed films, packaging films, hot melt adhesives, wires and cables, toys and other fields. In general, the performance of EVA resins is mainly determined by the amount of vinyl acetate on the chain. EVA has good low temperature resistance, and its thermal decomposition temperature is about 230°C. As the molecular weight increases, the softening point of EVA increases, and the processability and surface gloss decrease. However, with the increase of strength, the impact toughness and environmental stress cracking resistance are improved. The chemical and oil resistance of EVA is slightly worse than that of PE and PVC, and the difference is more obvious with the increase of the content of vinyl acetate. EVA has better performance than LDPE in terms of elasticity, flexibility, gloss, and air permeability. In addition, its resistance to environmental stress cracking has been improved, and its compatibility with fillers has increased. Therefore, the method of adding more reinforcing fillers can be used to avoid or reduce the poor mechanical properties of EVA. Its modification can be considered from two aspects: one is to use EVA as the backbone for grafting other monomers; the other is to conduct partial alcoholysis of EVA.

EVA 产品质量性能 Product Quality Performance

具有良好的柔软性, 橡胶般的弹性, 在 -50℃ 下仍能够具有较好的可挠性。透明性和表面光泽性好, 化学稳定性良好, 抗老化和耐臭氧性能好, 无毒性。填料的掺混性好, 着色和成型加工性好。不含臭味, 可生物降解: 弃掉或燃烧时不会对环境造成伤害。

It has good softness, rubber-like elasticity, and still has good flexibility at -50 ° C. Good transparency and surface gloss, good chemical stability, good anti-aging and ozone resistance, and non-toxic. The filler has good blending properties, good coloring and molding processability. Odor-free, biodegradable: no harm to the environment when discarded or burned.

(1) 重量较轻: EVA 的密度介于 0.915 ~ 0.955g/cm³。

Lighter weight: The density of EVA is between 0.915 ~ 0.955g/cm³.

(2) 不含金属: 符合有关国际的玩具条例 (EN-71 Part3 及 ASTM-F963)。

Metal-free: in line with relevant international toy regulations (EN-71 Part3 and ASTM-F963).

(3) 不含邻苯二甲酸盐: 适合儿童玩具 (不会产生增塑剂释出危险), 其高透明、柔软及坚韧度等特性应用范围十分广泛。

Phthalates-free: suitable for children's toys (no risk of plasticizer release), and its high transparency, softness and toughness characteristics have a wide range of applications.

(4) 超强耐低温 (-70℃): 适合结冰环境。

Super low temperature resistance (-70°C): suitable for freezing environment.

(5) 抗水、盐份及其它物质: 在大部分的应用情况下都能保持稳定。

Resistant to water, salt and other substances: it can maintain stability in most applications.

(6) 高热贴性: 可牢固地贴于尼龙, 涤纶, 帆布及其它布类。

High thermal adhesion: it can be firmly adhered to nylon, polyester, canvas and other cloth.

(7) 低贴合温度: 可加快生产速度。

Low bonding temperature: can speed up the production speed.

(8) 可丝印及柯式印刷: 可用于多图案的产品 (但必须用 EVA 类的油墨)。

Screen printing and offset printing: can be used for multi-pattern products (but must use EVA ink).



EVA 产品主要应用 Main Application

(1) 光伏胶膜: VA 含量 26% ~ 30%。光伏电池封装胶膜 (EVA) 一种热固性有粘性的胶膜, 用于放在夹胶玻璃中间。EVA 胶膜在粘着力、耐久性、光学特性等方面具有的优越性, 使得它被越来越广泛的应用于光伏胶膜电流组件以及各种光学产品;

Photovoltaic film: VA content is 26%-30%. Photovoltaic cell encapsulation film (EVA) is a thermosetting adhesive film that is used in the middle of laminated glass. The superiority of EVA film in terms of adhesion, durability, optical properties, etc., which makes it more and more widely used in photovoltaic film current components and various optical products.

(2) 发泡鞋材: VA 含量 15% ~ 22%。EVA 树脂共混发泡制品具有柔软、弹性好、耐化学腐蚀等性能, 因此被广泛应用于中高档旅游鞋、登山鞋、拖鞋、凉鞋的鞋底和内饰材料中。另外, 这种材料还用于隔音板、体操垫和密封材领域;

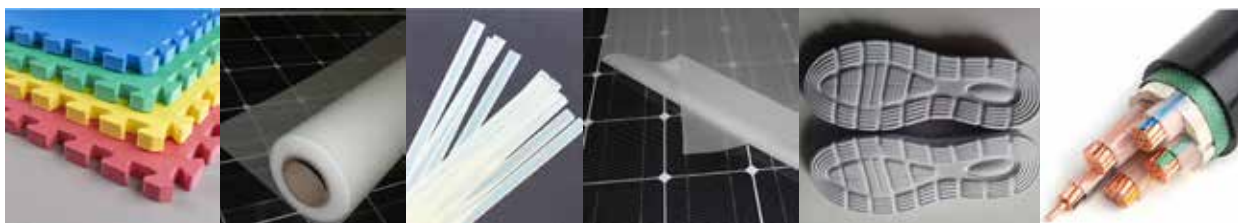
Foam shoe material: VA content is 15%-22%. Due to EVA resin blended foam products have the properties of softness, good elasticity, and chemical resistance, they are widely used in the soles and interior materials of middle and high-end tourist shoes, hiking shoes, slippers, and sandals. In addition, it is also used in the fields of sound insulation boards, gymnastics mats and sealing materials.

(3) 电线电缆: VA 含量 12 ~ 30%。由于 EVA 树脂具有良好的填料包容性和可交联性, 因此在无卤阻燃电缆、半导体屏蔽电缆和第二步法硅烷交联电缆中使用较多;

Wire and cable: VA content is 12%-30%. EVA resin is widely used in halogen-free flame-retardant cables, semiconductor shielded cables and two-step silane crosslinked cables due to its filler tolerance and crosslinkability.

(4) 热熔胶: VA 含量一般 30% 以上。以 EVA 树脂为主要成分的热熔胶, 由于不含溶剂, 不污染环境且安全性较高, 非常适合于自动化的流水线生产, 因此被广泛应用于书籍无线装订、家具封边、汽车和家用电器的装配、制鞋、地毯涂层和金属的防腐涂层上。

Hot melt adhesive: VA content is generally more than 30%. The hot melt adhesive with EVA resin as the main component does not contain solvents, does not pollute the environment and has high safety, which is eminently suitable for automated assembly line production. Therefore, it is widely used in book wireless binding, furniture edge banding, automobile and household appliances assembly, shoe-making, carpet coating and metal anti-corrosion coating.



产品牌号 Grades		V5110J/V5120J	V6110M/V6120M	V6110S/V6120S
熔体质量流动速率 (MFR 190°C/2.16kg)	g/10min	3	6	25 3.2(125°C测试)
VA	%	18	28	28
熔点温度 Melting Point	°C	82	73	N/A
维卡软化点温度 Vicat Softening Point	°C	62	45	N/A
晶点 (100-300um) Crystal Point(100-00um)	个 /1200cm ²	N/A	N/A	≤80
晶点 (300-500um) Crystal Point(300-500um)	个 /1200cm ²	≤30	≤15	≤5
晶点 (>500um) Crystal Point(>500um)	个 /1200cm ²	≤10	≤5	≤1
色粒 Color grain	个 /KG	≤6	≤6	≤3
主要用途 Applications		光伏胶膜、电线电缆、弹性薄膜、热熔粘合剂和涂层制品、 发泡制品 PV Films、wires and cables、elastic films、hot melt adhesives and coating products、foamed products		

ABS/SAN



荣盛石化
RONGSHENG PETROCHEMICAL

丙烯腈 - 丁二烯 - 苯乙烯共聚物、丙烯腈 - 苯乙烯共聚物

产品简介 Introduction

ABS 树脂是丙烯腈、丁二烯、苯乙烯三种单体的三元共聚物，兼有三种单体共同性能的米白色热塑性树脂，因此 ABS 具有刚性好、冲击强度高、耐热、耐低温、耐化学药品性，机械强度和电气性能优良的特性。ABS 树脂易于加工，加工尺寸稳定和表面光泽度好；同时易于涂装、着色，还可以进行喷涂、电镀、焊接和粘接等二次加工。ABS resin is a terpolymer of three monomers of acrylonitrile, butadiene and styrene, and has the common properties of the three components. Therefore, ABS has good rigidity, high impact strength, good heat resistance, good resistance for low temperature, good chemical resistance, excellent mechanical strength and electrical properties. It is easy for processing, as it has good processing dimensional stability and surface gloss. It is also easy to paint and color, and can also be sprayed, secondary processing such as electroplating, welding and bonding.

ABS 树脂的最大应用领域是家用电器、办公设备、交通运输、生活用品、玩具和建材。此外也被应用于包装、家具、体育和娱乐用品、机械和仪表工业中。

The largest application areas of ABS resin are household appliances, office equipment, transportation, daily necessities, toys and building materials. It is also used in packaging, furniture, sports and entertainment, machinery and instrumentation industries.

装置情况 Plant

浙石化采用乳液法技术建设 ABS 装置及其相应配套设施，产品以高端通用料为主。项目总规划产能 160 万吨 / 年，分两期建设，一期装置设计产能 40 万吨 / 年，二期装置设计产能 120 万吨 / 年，均已全部投产。

Zhejiang Petrochemical Company adopts emulsion technology to build ABS equipment and corresponding supporting facilities, and the products are mainly high-grade general materials. The total planned production capacity of the project is 1.6 million tons/year, which is built in two phases, and the design capacity of the first phase of the device is 400,000 tons/year, which has been fully put into operation. The second phase of the plant design capacity of 1.2 million tons/year, which has been fully put into operation.



产品分类 Product Categories



ABS

规格 Specification	通用级 General Grade			高冲级 High Impac Grade	喷涂级 Painting Grade
产品 Production	ZA0210	ZA0211	ZA0210H	ZA0300	ZA6210
特性 Features	高刚性、高光泽 High stiffness, high gloss	椭圆形、高刚性 Elliptical particl, high stiffness	高刚性、高光黑 High stiffness、 high gloss black	高冲击强度 High impact resistance	耐化学性 Chemical resistance
主要用途 Application	家电、 电子电器产品 Home appliances, electronic and electrical products	家电、 电子电器产品 Home appliances, electronic and electrical products	电视机、 路由器等 TV,router,etc.	安全帽、 鞋跟、箱包等 Helmet, heels, bags, etc.	电动车及 相关配件等 Electric vehicles and related accessories, etc.

SAN

规格 Specification	通用级 General Grade			
产品 Production	ZS0250	ZS025B	ZS0251	ZS0350
特性 Features	一般用途, 本色 Injection grade, natural color	一般用途, 蓝色 Injection grade, light blue	椭圆形, 本色 Elliptical particl, natural color	高刚性、高耐化性 High stiffness, high chemical resistance
主要用途 Application	日用品、化妆品等 Daily necessities, cosmetics, etc.	文具、化妆品等 Stationery, cosmetics, etc.	日用品、化妆品等 Daily necessities, cosmetics, etc.	打火机、家电部件等 Lighters, home appliance parts, etc.



物性类别 Physical property category	测试方法 Test method	测试条件 Test conditions	单位 unit	通用级 ABS General Grade				喷涂级 ABS Painting Grade	通用级 SAN General Grade			
				ZA0210	ZA0211	ZA0210H	ZA0300	ZA6210	ZS0250	ZS025B	ZS0251	ZS0350
拉伸强度 Tensile Strength	GB/T1040.2	50 mm/min	MPa	47	46	45	39	43	60	60	60	70
弯曲强度 Flexural Strength	GB/T9341	2mm/min	MPa	76	77	72	61	67	106	106	106	124
弯曲模量 Flexural Strength	GB/T9341	2mm/min	MPa	2700	2600	2500	2300	2000	3000	3000	3000	3000
Izod 冲击强度 Izod Impact	GB/T1043.1	4mm, 23°C	KJ/m²	20	20	18	33	20	-	-	-	-
维卡软化点 Vicat Softening Point	GB/T1633B50	4mm	°C	97	97	97	94	96	104	104	104	108
燃烧性 Flammability	UL94	-	-	HB	HB	HB	HB	HB	HB	HB	HB	HB
熔融指数 Melt Flow Rate	GB/T3682.1	220°C, 10kg	g/10min	20-24	20-24	18-23	12-18	38-48	28-36	28-36	28-36	8-12
比重 Specific Gravity	D792	-	g/cm³	1.04	1.04	1.05	1.03	1.05	1.06	1.06	1.06	1.06
成型收缩率 Molding Shrinkage	D955		%	0.4 ~ 0.7	0.4 ~ 0.7	0.4 ~ 0.7	0.4 ~ 0.7	0.3 ~ 0.6				
产品特性 Features				高刚性、高光泽 High stiffness, high gloss	椭圆形、高刚性 Elliptical particl, high stiffness	高刚性、高光黑 High stiffness, high gloss black	高冲击强度 High impact resistance	耐化学性 Chemical resistance	一般用途, 本色 Injection grade, natural color	一般用途, 蓝色 Injection grade, light blue	椭圆形, 本色 Elliptical particl, natural color	高刚性、高耐化性 High sttiffness, high chemical resistance

注：以上数据是在特定条件下测出的代表值并非保证值, 保证值为我司备案企业标准。

The above data are representative values measured under specific conditions, not guaranteed values. The guaranteed values are the standards of our company for record.

注塑工艺参考 Parameters For Reference		单位 Unit	通用级 ABS General Grade				喷涂级 ABS Painting Grade	通用级 SAN General Grade			
			ZA0210	ZA0211	ZA0210H	ZA0300	ZA6210	ZS0250	ZS025B	ZS0251	ZS0350
干燥温度 Drying Temperature		℃	80	80	80	80	70-80	80	80	80	80
干燥时间 Drying Time		hrs	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
最低水分含量 Minimum Moisture Content		%	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
熔融温度 Melting Temperature		℃	210-240	210-240	210-240	210-240	200-230	210-230	210-230	210-230	210-230
料筒温度 Barrel Temperature	后段 Back Section	℃	180-200	180-200	180-200	180-200	170-190	200-220	200-220	200-220	190-210
	中段 Middle Section	℃	190-210	190-210	190-210	190-220	180-200	210-230	210-230	210-230	210-230
	前段 Front Section	℃	200-210	200-210	200-210	200-220	190-200	210-230	210-230	210-230	210-230
射嘴温度 Nozzle Temperature		℃	200-220	200-220	200-220	200-230	200-230	210-230	210-230	210-230	210-230
模具温度 Mold Temperature		℃	40-70	40-70	40-70	40-70	40-60	50-70	50-70	50-70	50-70
背压 Back Pressure		bar	10-30	10-30	10-30	10-30	10-30	5-15	5-15	5-15	5-15
螺杆转速 Screw Speed		rpm	30-60	30-60	30-60	30-60	30-60	30-60	30-60	30-60	30-60

说明：instruction:

(1)上述提到的背压和螺杆转速只是作为一般指导方针；
 The back pressure and screw speed mentioned above are only general guidelines;
 (2)在特定情况下，如低速注塑尺寸成型、薄壁成型和气体辅助成型，这些数据可能不适用或需要调整后使用；
 In certain cases, such as low-speed injection molding, thin-wall molding and gas-assisted molding, these data may not be applicable or need to be adjusted for use;
 (3)为了防止在关机之前物料在模头内降解，或物料流出挤出机，建议初始设置温度稍低些。
 In order to prevent the material from degrading in the die before shutdown, or the material flowing out of the extrusion stage, it is recommended that the initial setting temperature be slightly lower.

溶聚丁苯橡胶 / 顺丁橡胶 (SSBR/BR)

产品简介 Introduction

SSBR、BR 主要用于高性能轮胎、鞋、输送带等橡胶工业制品。

SSBR and BR are mainly used for rubber industrial products such as high-performance tires, footwears, conveyor belts and so on.

装置情况 Plant

浙石化建有两套橡胶装置：年产 6 万吨溶聚丁苯橡胶 (SSBR)、年产 10 万吨稀土顺丁橡胶 (NdBR) 装置(可共线年产 7 万吨顺丁橡胶 BR9000)。

Zhejiang Petroleum & Chemical Co., Ltd. has built two sets of rubber plants: SSBR with an annual capacity of 60,000 tons and NdBR with an annual capacity of 100,000 tons (the latter can also co-line BR9000 with an annual capacity of 70,000 tons).

产品特性 Characteristics

(1) 包装 Package

胶块用 PE 薄膜封装, 牛皮纸复合编织袋或租赁金属箱包装, 每块净重 35kg。

Sealed with PE film, packaged with kraft bag lined with plastic, or metal crate for rubber bales, each bale weighs 35 kg net.

(2) 保质期 Shelf life

产品在存储、运输途中, 应避免受热、受潮, 避免阳光照射、雨淋和异物污染, 保质期 2 年。

During storage and transportation, the product should avoid heat, damp, sunlight and rain, and foreign matter pollution. The shelf life is 2 years from the date of manufacture.



SSBR 产品组合 Product Portfolio

规格 Specification	产品牌号 Grades								
	2564T	3840T	3640TF	1042F	2055F	2260F	2562TF	2658F	3840TF
改性与否 Functionalized	No	No	F	F	F	F	F	F	F
门尼 ML(1+4)100°C	45-55	75-85	48-58	65-75	55-65	65-75	50-60	65-75	75-85
填充油 Oil Type - p.h.r	TDAE-37.5	TDAE-37.5	TDAE-37.5	-	-	-	TDAE-37.5	-	TDAE-37.5
结合苯乙烯含量 Bound styrene % wt	23-27	36-40	33.5-37.5	8-12	18-22	20-24	23-27	24-28	36-40
乙烯基含量 Vinyl content % wt (on BD)	60-68	36-44	36-44	38-46	51-59	56-64	58-66	54-62	36-44
主要用途 Application	HP 轮胎、鞋等 HP tires, footwears, etc.	UHP 轮胎、赛车 胎、鞋等 UHP tires, racing car tires, footwears, etc.	UHP 轮胎、鞋等 UHP tires, footwears, etc.	冬季轮胎、HP 轮 胎、鞋等 Winter tires,HP tires, footwears, etc.	LRR 轮胎、HP 轮 胎、鞋等 LRR tires,HP tires, footwears, etc.		HP 轮胎、鞋等 HP tires, footwears, etc		UHP 轮胎、赛车 胎、鞋等 UHP tires, racing car tires, footwears, etc.

备注：以上规格可能会因时改版。

BR 产品组合 Product Portfolio

规格 Specification	产品牌号 Grades						
	BR9000	NdBR9144	NdBR9163	NdBR9144B	NdBR9144F	NdBR9163F	NdBR9137T
催化剂类型 Catalyst	Ni	Nd	Nd	Nd	Nd	Nd	Nd
门尼 ML(1+4)100°C	41-49	40-48	59-67	40-48	40-48	59-67	33-41
挥发分 Volatile Matter%	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5
灰分 Ash%	≤0.2	≤0.2	≤0.2	≤0.2	≤0.2	≤0.2	≤0.2
特性 Features	通用型 Ordinary type	线性 Linear	高度线性 High linear	长链支化 Long chain & branched	改性 Functionalized	改性 Functionalized	充油 Oil-extended
填充油 Oil Type - p.h.r.	-	-	-	-	-	-	TDAE-37.5
主要用途 Application	轮胎、输送带、鞋 等 tires, conveyor belts, footwear,etc	高性能轮胎, 传送带, V 带、高尔夫球、鞋等 HP tires, conveyor belts, V-belts, Golf balls, footwears, etc					

备注：以上规格可能会因时改版。

荣盛石化塑料产品 集装箱海包（散装）推广说明书

随着人口老龄化以及人工成本的进一步提高，塑料加工行业的自动化与智能化呈现出加速发展的趋势，同时环境保护与碳减排要求日趋苛刻，对减少使用塑料包装材料提出了更高的要求，为此，借鉴欧美经验，结合下游工厂实际特点，荣盛石化（浙石化）特推出塑料产品罐装出厂助力下游提升自动化、降低成本。

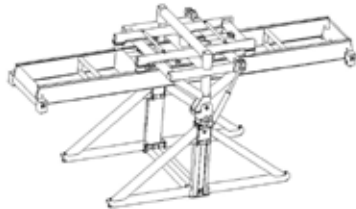
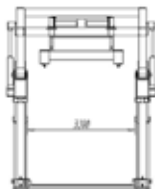
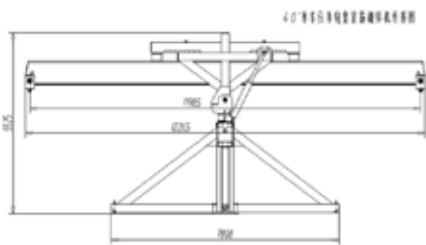
一、主要集装箱海包规格型号（40GP、20HQ、20GP）



集装箱规格尺寸				
集装箱规格	外尺寸 长×宽×高（米）	内尺寸 长×宽×高（米）	体积（m³）	重量（吨）
20GP	6.096×2.438×2.591	5.895×2.350×2.392	33	17
20HQ	6.096×2.438×2.896	5.895×2.350×2.697	37.3	19
40GP	12.192×2.438×2.591	12.032×2.352×2.385	67.5	28

二、下游主要卸货设施推荐

1、20GP、20HQ、40GP 专用翻转卸车方式（预计投资20-40万元）



2、20/40尺车辆液压平台装卸（预计投资20-40万）

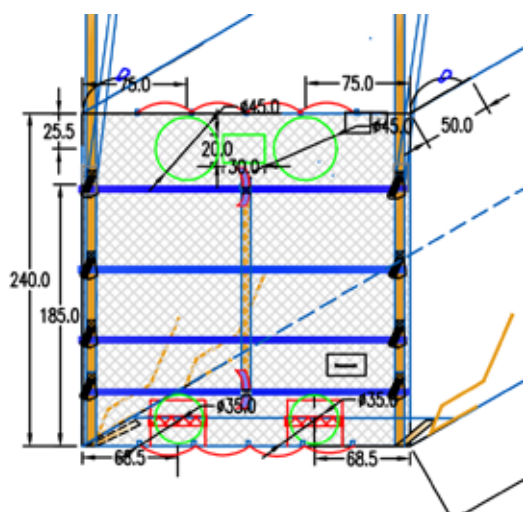


3、轨道吊 + 翻转机（预计投资60-80万）

对于下游大工厂（3000吨以上规模），有场地可以考虑轨道吊，可以减少料仓不足压力，通过10-20个海包集装箱存放在厂区作为库存周转。



三、海包卸料口尺寸



四、集装箱海包散装相关政策与建议

1、计划保供优势

根据客户月度需求计划，确保稳定供应；减少客户仓库占用场地以及库存资金。

2、价格优惠政策

在现有价格政策基础上，根据集装箱大小，我司将提供50-70元/吨散装价格优惠政策。

3、散装业务相关要求与建议

☆ 增加卸料设施

☆ 建议配备100-200m³/个的料仓，最小60m³/个的料仓，具体下游工厂根据自身规模与需求进行配备一个或多个料仓。

☆ 料仓总量：建议工厂配备4-7天的罐储容量，最少3天的罐储容量，来保证生产安全。

五、荣盛石化（浙石化）散装业务咨询联系人

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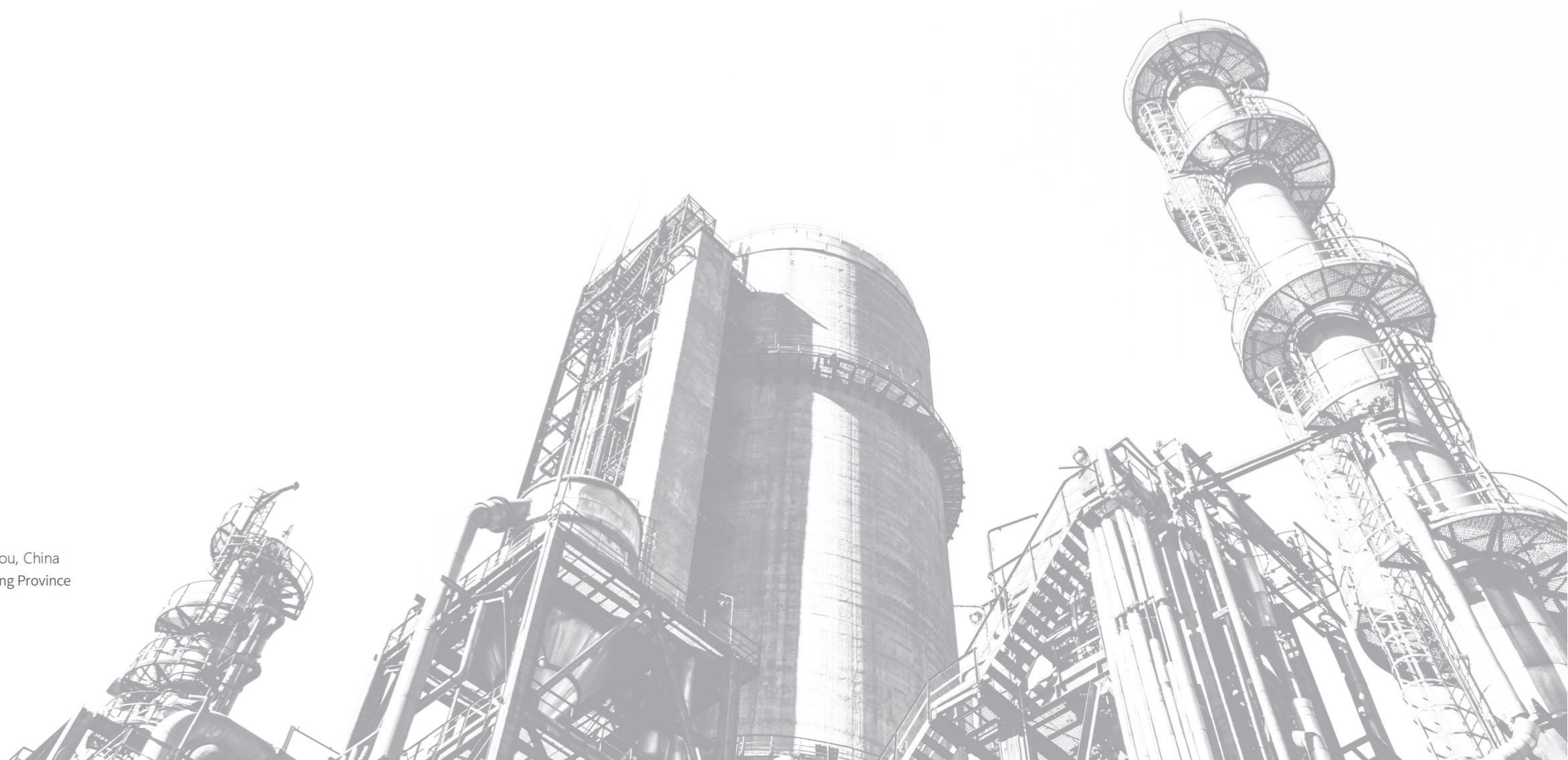
DERONG
CHEMICALS



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公司简介 Profile

Zhejiang Derong Chemicals was jointly founded in September 2017 by Zhejiang Petrochemicals Co.,Ltd. and Guangdong Dymatic Chemicals, Inc. , which is the world-wide largest processing and utilization company of C5 and C9 fractions extracting from ethylene cracking. It is located in Zhejiang Zhou Shan Green Petrochemical base of the National Free Trade Zone, covering an area of 242,000 square meters, with a registered capital of RMB 1.02 billion Yuan.

Zhejiang Derong Chemicals has comparative advantage on raw materials supply of C5 fraction, C9 fraction and light fuel oil on the basis of 40 million tons of refining and 4.2 million tons of ethylene integrated resources of Zhejiang Petrochemicals Co., Ltd. Its total capacity is 1.02 million tons annually, with C5 separation capacity of 500 kt and C9 separation of 480 kt. It is able to produce **5** kinds of liquid chemical products, including isoprene, piperylene, dicyclopentadiene cyclopentane **and Isopentane**; and **2** kinds of resins including C5 hydrocarbon resins, hydrogenated DCPD resins, which **could be further subdivided into more than 10 grades**. It will offer you the whole pie with value-added benefits that help formulators the most coming from different areas, such as Adhesive, Sealant, Coating, Paint, Ink and Rubbers etc.

浙江德荣化工有限公司成立于2017年9月，是目前世界最大的单体乙烯裂解碳五、碳九综合加工利用企业。公司由浙江石油化工有限公司和广东德美精细化工集团股份有限公司共同投资设立，项目建设地点位于国家自由贸易试验区浙江舟山绿色石化基地，占地面积363亩，注册资金10.2亿元。

公司依托浙石化每年4000万吨炼油和420万吨乙烯资源，以乙烯裂解碳五、碳九和轻燃料油为原料，总加工规模102万吨/年，设计碳五分离能力50万吨/年、碳九分离能力48万吨/年，可生产异戊二烯、间戊二烯、双环戊二烯、环戊烷和异戊烷等5种液体化工产品；以及碳五石油树脂、氢化DCPD石油树脂等2大类10多个牌号的各各种树脂产品，品类丰富，规格齐全，可以满足胶黏剂、密封剂、涂料、油漆、油墨和橡胶轮胎等各行业需求。



碳五石油树脂

C5 HYDROCARBON RESINS

产品介绍

本产品以间戊二烯为主要原料，是不饱和脂肪族烯烃和二烯烃聚合而成的热塑性功能性低分子聚合物，主要起增粘作用。其颜色呈淡黄色，具有优良的溶解性、相容性、粘接性、耐水性、耐候性、热稳定性，对酸碱具有化学稳定性，和醇以外的许多溶剂相溶，与植物油、天然树脂、合成树脂、增塑剂等相容性好。

产品指标

牌号 \ 项目	类型	软化点	色相	应用推荐
单位		℃	YI	
DR-1103	C5	96-104	50 max	橡胶轮胎、热熔压敏胶
DR-1104	C5	96-104	40 max	溶剂型压敏胶、热熔压敏胶
DR-1195	C5	91-97	40 max	热熔胶、热熔压敏胶
DR-2100	C5/SM	89-96	40 max	热熔胶、热熔压敏胶
DR-1200	C5/Acid	98-105	40 max	热熔路标漆

包装储运

产品标准包装采用FFS重包装袋（单袋净重25Kg）或650Kg编织袋包装。
运输过程远离火源，并防止日晒、雨淋、钩挂。
贮存在通风、阴凉、干燥处。

Product Description

The products are light yellow C5 aliphatic resins that provide very good adhesion in Hot Melt PSA and Solvent Based PSA, which include many kinds of labels and tapes, such as packaging tapes, double-sided tapes, masking tapes, surgical tapes, electrical tapes and insulation tapes. Have excellent compatibility with SIS, Natural Rubber, plasticizer as well as natural tackifier resins. Have very good thermal stability and weather stability.

Specifications

Grade \ Item	Type	Softening Point	Color	Application
Unit		℃	YI	
DR-1103	C5	96-104	50 max	Rubber&Tyre, HMPSA
DR-1104	C5	96-104	40 max	SBPSA, HMPSA
DR-1195	C5	91-97	40 max	HMA, HMPSA
DR-2100	C5/SM	89-96	40 max	HMA, HMPSA
DR-1200	C5/Acid	98-105	40 max	HMRM

Packaging, Transportation and Storage

Resins are supplied in granules form with 25kg FFS bags or 650kg plastic woven bags.
Away from fire. Prevent from sunshine, rain and tear in transportation.
Storage in dry cool place with good ventilation.



氢化DCPD石油树脂

HYDROGENATED DCPD RESINS

DERONG CHEMICALS

产品介绍

氢化DCPD石油树脂是由工业双环戊二烯在一定的温度和压力条件下，经聚合、加氢、精制等工序生产的树脂产品，外观为无色透明颗粒。应用于压敏胶和热熔胶产品，尤其适用于对颜色、气味要求高的应用领域，例如医疗卫生、无纺布用品和汽车内饰等。

产品指标

牌号\项目	类型	软化点	色度	应用推荐
单位		℃	色号	
DR-5300	全加氢	97-105	1.0 max	SIS、SEBS、EVA、PO、APAO 类胶粘剂等，塑料薄膜
DR-5300N		97-105	2.0 max	
DR-5310		105-115	1.0 max	
DR-5310N		105-115	2.0 max	
DR-5320		115-125	1.0 max	
DR-5320N		115-125	2.0 max	

包装储运

产品标准包装采用FFS重包装袋（单袋净重25Kg）或650Kg编织袋包装。
运输过程远离火源，并防止日晒、雨淋、钩挂。
贮存在通风、阴凉、干燥处。



Product Description

The products are made from DCPD through polymerization and hydrogenation. They are water-white transparent granules, and used in PSA or non-PSA, where color and odor are strictly required such as in hygienic, non-woven fabrics and automotive interior.

Specifications

Grade\Item	Type	Softening Point	Color	Application
Unit		℃	Number	
DR-5300	Water White	97-105	1.0 max	SIS, SEB, EVA, PO, APAO Adhesives etc./Plastic Film
DR-5300N		97-105	2.0 max	
DR-5310		105-115	1.0 max	
DR-5310N		105-115	2.0 max	
DR-5320		115-125	1.0 max	
DR-5320N		115-125	2.0 max	

Packaging, Transportation and Storage

Resins are supplied in granules form with 25kg FFS bags or 650kg plastic woven bags.
Away from fire. Prevent from sunshine, rain and tear in transportation.
Storage in dry cool place with good ventilation.



工业用间戊二烯

PIPERYLENE

产品概述

本产品是以石油裂解制乙烯过程中的裂解碳五为原料，经精馏、萃取蒸馏而制得的工业用间戊二烯产品。

化学名称：1,3-戊二烯，包括反-1,3-戊二烯和顺-1,3-戊二烯，也称间戊二烯。

结构简式：CH₃CH=CHCH=CH₂

分子式：C₅H₈

质量指标

项目	单位	指标		试验方法
		优级品	合格品	
外观		清澈透明液体，无机械杂质		目测*
色度（Pt-Co）	号	≤ 50	--	GB/T 3143
间戊二烯	wt%	≥ 67	≥ 60	SH/T 1790
反-1,3-戊二烯	wt%	≥ 42	≥ 38	
双环戊二烯 + 环戊二烯	wt%	≤ 1	≤ 1.5	
水分	wt%	≤ 0.025	≤ 0.025	SH/T 0246 或 GB/T 6283
*在自然光下，取 50ml~60ml 试样于清洁、干燥的 100ml 比色管中观测。				

应用领域

主要用于生产脂肪族石油树脂、固化剂和香料等精细化工产品。

包装储运

储存采用钢制贮槽，运输时可采用钢制槽车。

应防止暴晒、雨淋，运输工具应清洁干燥。

应符合交通运输部门对危险货物运输的有关规定。

Product Description

The product is prepared by distillation and extraction, using C5 fraction coming from ethylene cracking as raw materials.

Chemical Name: 1,3-pentadiene, including trans-1,3-pentadiene and cis-1,3-pentadiene, also known as Piperylene .

Structural Formular：CH₃CH=CHCH=CH₂

Chemical Formular：C₅H₈

Specifications

Item	Unit	Specification Range		Test Method
		premium grade	on-spec grade	
Appearance		clear and transparent liquid, no impurities		By naked eyes*
Color（Pt-Co）	num.	≤ 50	--	GB/T 3143
Piperylene	wt%	≥ 67	≥ 60	SH/T 1790
Trans-1,3-pentadiene	wt%	≥ 42	≥ 38	
DCPD+CPD	wt%	≤ 1	≤ 1.5	
Water	wt%	≤ 0.025	≤ 0.025	SH/T 0246 or GB/T 6283
* Put 50ml~60ml sample in 100ml colorimetric tube which is clean and dry. And view under natural light.				

Applications

Mainly used to produce C5 hydrocarbon resins, crosslinkers, spices and other fine chemical products.

Packaging, Transportation and Storage

Storage in steel tank. Use steel tank wagon for transportation.

Away from sunshine and rain. The containers must be clean and dry.

Must comply with the relevant regulation of dangerous goods transportation issued by the transportation authority.

工业用异戊二烯

ISOPRENE

产品概述

本产品是以石油裂解制乙烯过程中的裂解碳五为原料，经精馏、萃取蒸馏而制得的工业用异戊二烯产品。

化学名称：2-甲基-1,3-丁二烯，也称异戊二烯。

结构简式：CH₂=C(CH₃)CH=CH₂

分子式：C₅H₈

质量指标

项目	单位	指标			分析方法
		聚合级		化学级	
		一级品	合格品	—	
外观		清澈透明液体，无机械杂质			目测
色度（Pt-Co）	号	≤ 30	≤ 30	≤ 100	GB/T 3143
异戊二烯	wt%	≥ 99.5	≥ 99.2	≥ 98.5	SH/T 1782
异戊二烯二聚物	wt%	≤ 0.15	≤ 0.20	—	
烷烃及单烯烃	wt%	≤ 0.50	≤ 0.80	—	
环戊二烯	mg/kg	≤ 3	≤ 5	—	SH/T 1783
总炔烃	mg/kg	≤ 30	≤ 50	—	
间戊二烯	mg/kg	≤ 50	≤ 80	—	
抽提溶剂	mg/kg	≤ 5	≤ 10	—	SH/T 1784
硫	mg/kg	≤ 5	≤ 10	—	SH/T 0689
羰基化合物（以乙醛计）	mg/kg	≤ 5	≤ 10	—	GB/T 1788
水分	wt%	≤ 0.02	≤ 0.02	≤ 0.03	GB/T 6283
阻聚剂	wt%	0.004 ~ 0.02		—	GB/T 6020

应用领域

主要用于生产聚异戊二烯橡胶、热塑性弹性体SIS、丁基橡胶等。也可用于生产维生素、药物、香料、环氧硬化剂等精细化工产品。

包装储运

储存采用钢制贮槽，运输时可采用钢制槽车。

应防止暴晒、雨淋，运输工具应清洁干燥。

应符合交通运输部门对危险货物运输的有关规定。

Product Description

The product is prepared by distillation and extraction, using C5 fraction coming from ethylene cracking as raw materials.

Chemical Name：2-Methyl-1,3-Butadiene, also known as Isoprene

Structural Formular：CH₂=C(CH₃)CH=CH₂

Chemical Formular：C₅H₈

Specifications

Item	Unit	Specification Range			Test Method
		polymerization grade		chemical grade	
		first-grade	on-spec grade	—	
Appearance		clear and transparent liquid, no impurities			By naked eyes
Color（Pt-Co）	num.	≤ 30	≤ 30	≤ 100	GB/T 3143
Isoprene	wt%	≥ 99.5	≥ 99.2	≥ 98.5	SH/T 1782
Isoprene dimer	wt%	≤ 0.15	≤ 0.20	—	
Alkanes and Monoolefins	wt%	≤ 0.50	≤ 0.80	—	
CPD	mg/kg	≤ 3	≤ 5	—	SH/T 1783
Total Alkynes	mg/kg	≤ 30	≤ 50	—	
Piperylene	mg/kg	≤ 50	≤ 80	—	
Extraction solvent	mg/kg	≤ 5	≤ 10	—	SH/T 1784
Sulphur	mg/kg	≤ 5	≤ 10	—	SH/T 0689
Carbonyl compounds (count as aldehyde)	mg/kg	≤ 5	≤ 10	—	GB/T 1788
Water	wt%	≤ 0.02	≤ 0.02	≤ 0.03	GB/T 6283
Polymerization inhibitor	wt%	0.004 ~ 0.02		—	GB/T 6020

Applications

Mainly used to produce polyisoprene rubber, thermoplastic elastomer (SIS) and butyl rubber etc. May also be used to synthetize fine chemicals such as Vitamin, Pharmaceutical, Perfume, Epoxy crosslinker etc.

Packaging, Transportation and Storage

Storage in steel tank. Use steel tank wagon for transportation.

Away from sunshine and rain. The containers must be clean and dry.

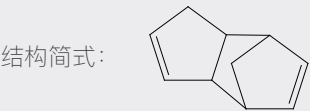
Must comply with the relevant regulation of dangerous goods transportation issued by the transportation authority.

工业用双环戊二烯（聚酯级）

DCPD (Polyester Grade)

产品概述

本产品是以石油裂解制乙烯过程中的碳五馏分为原料，经精馏制得的工业用双环戊二烯产品。



分子式：C₁₀H₁₂

质量指标

项目	单位	指标			试验方法
		优等品	一等品	合格品	
外观		清澈透明液体，无机械杂质			目测
色度 (Pt-Co)	号	≤ 100	≤ 200	≤ 200	GB/T 3143
双环戊二烯*	wt%	≥ 85.0	≥ 80.0	≥ 75.0	SH/T 1806
环戊二烯	wt%	报告	报告	报告	
碳六及碳六以下轻组分	wt%	≤ 3.0	≤ 5.0	—	
碳十以上组分	wt%	≤ 3.0	—	—	
苯	wt%	报告	报告	报告	
甲苯	wt%	报告	报告	报告	
水分	wt%	≤ 0.020	≤ 0.020	无游离水	GB/T 6283
* 双环戊二烯含量仅指桥环式双环戊二烯					

应用领域

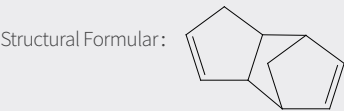
主要用于生产不饱和聚酯树脂、双环石油树脂等。

包装储运

储存采用钢制贮槽，运输时可采用钢制槽车。
应防止暴晒、雨淋，运输工具应清洁干燥。
应符合交通运输部门对危险货物运输的有关规定。

Product Description

The product is prepared by distillation and extraction, using C5 fraction coming from ethylene cracking as raw materials.



Molecular Formula: C₁₀H₁₂

Specifications

Item	Unit	Specification Range			Test Method
		premium grade	first-grade	on-spec grade	
Appearance		clear and transparent liquid, no impurities.			By naked eyes
Color (Pt-Co)	num.	≤ 100	≤ 200	≤ 200	GB/T 3143
DCPD*	wt%	≥ 85.0	≥ 80.0	≥ 75.0	SH/T 1806
CPD	wt%	report	report	report	
Light components of C1~C6	wt%	≤ 3.0	≤ 5.0	—	
Components heavier than C10	wt%	≤ 3.0	—	—	
Benzene	wt%	report	report	report	
Toluene	wt%	report	report	report	
Water	wt%	≤ 0.020	≤ 0.020	no water observed by naked eyes	GB/T 6283
* Herein the structure of DCPD is bridged DCPD.					

Applications

Mainly used to produce unsaturated polyester resin and DCPD hydrocarbon resins etc.

Packaging, Transportation and Storage

Storage in steel tank. Use steel tank wagon for transportation.
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Must comply with the relevant regulation of dangerous goods transportation issued by the transportation authority.

结论 Conclusion

依托浙石化，立足鱼山岛，德荣化工项目规模、技术、成本、服务和
管理优势明显，地理位置优越，储运物流便捷。公司将以促进中国石
油树脂行业发展为己任，致力于成为“有持续竞争力、有价值、可信
赖的石油树脂合作伙伴”。

欢迎您走进舟山，了解德荣。德荣愿与您携手，共创美好明天。

With the ultimate support from Zhejiang Petrochemicals, Zhejiang Derong Chemicals will
take the obvious advantages of the unique policy of Zhoushan Free Trade Zone, in line
with its capacity, technology, cost, service and management, and also the benefits of
conventional transportation and logistics, continuously promote the development of
national hydrocarbon resins industry and apply itself to be a persistently competitive,
valuable and reliable petroleum resins partner.

Welcome to Zhoushan and get to know Derong, we appreciate your help and
want to go with you.