

## 高密度聚乙烯 (HDPE)

### High-density Polyethylene (HDPE)

高密度聚乙烯是一种由乙烯与少量 $\alpha$ -烯烃单体共聚而成的高结晶非极性合成树脂，是在较低压力下合成，故又称低压聚乙烯。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。

中国石化高密度聚乙烯类别齐全、牌号众多，能够提供薄膜料、中空料、拉丝料、注塑料、管材料、电缆料、氯化聚乙烯用基础树脂等产品。

HDPE is a highly crystalline non-polar thermoplastic resin produced through the copolymerization of ethylene and a small amount of  $\alpha$ -olefin monomer. HDPE is synthesized under low pressure and is therefore also called low-pressure polyethylene. 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.

Sinopec produces a full grade of HDPE, which cover all fields of HDPE applications, including film, blow-molding, extrusion molding, injection molding, pipes, wire & cable and base material for producing chlorinated polyethylene.

#### 主要生产企业及工艺列表

##### Manufacturers and Processes

生产企业 Manufacturers	所在地 Locations	产能 (万吨/年) Design Capacity (10,000 Tons/a)	工艺技术 Processes	企业认证 Certifications	
				质量管理体系 Quality Management system	HSE管理体系 HSE Management System
燕山分公司 Yanshan Petrochemical	北京 Beijing	14	日本三井油化淤浆法工艺 Slurry Process of Japan Mitsui Petrochemical Industries	ISO 9001	GB/T 19001-2000
中沙石化 SINOPEC SABIC TianJin Petrochemical Company	天津 Tianjin	30	INEOS公司INNOVENES工艺 INNOVENES Process of INEOS	-	-
齐鲁分公司 Qilu Petrochemical	淄博 Zibo	14	美国联碳公司(现Univation)低压气相流化床工艺 Low-pressure Gas-phase Fluidized bed Process of US Univation	ISO 9001	GB/T 19001-2000
上海石化 Shanghai Petrochemical	上海 Shanghai	25	北欧化工公司的“北星双峰”PE工艺 Borealis A/S "Borstar Bimodel" PE Process	ISO 9001	GB/T 19001-2000 GB/T 24001-2004 GB/T 28001-2001
扬子石化 Yangzi Petrochemical	南京 Nanjing	17	日本三井油化淤浆法工艺 Slurry Process of Japan Mitsui Petrochemical Industries	ISO 9001	GB/T28001-2001 GB/T24001-2004
福建联合石化 Fujian Refining & Petrochemical Company Limited	泉州 Quanzhou	40	美国Univation公司低压气相流化床工艺 Low-pressure Gas-phase Fluidized bed Process of US Univation	-	-
茂名分公司 Maoming Petrochemical	茂名 Maoming	35	美国CPC公司的环管淤浆法工艺 Loop Slurry Process of US CPC	ISO 9001	GB/T 19001-2000
中韩石化	武汉 Wuhan	30	英国INEOS公司环管淤浆法工艺 Loop Slurry Process of UK INEOS	ISO 9001	GB/T 19001-2000

#### 主要用途

高密度聚乙烯可应用于多种塑料成型方法。中空吹塑法可用于制作各种瓶、罐及工业用槽、桶等容器；注塑成型制作各种盆、桶、篮、筐等日用盛器、日用杂品和家具等；挤出成型制作各种管材、捆扎带以及纤维、单丝等；还可用于制作电线电缆的包覆材料和合成纸；加入大量无机填料后，还可以制作钙塑包装箱、家具和门窗等，以代替木材和硬纸板。

#### Applications

HDPE is suitable for many plastic molding methods. Blow molding can be used for making various types of bottles, cans and industrial tanks and barrels. Injection molding is used for making various containers and goods of daily use, such as basins, barrels and baskets and furniture. Extrusion molding is used for making pipes, strapping tapes, fibers and single filaments and can also be used for making wires & cables covering materials and synthetic paper. After a large amount of inorganic filler is added, HDPE can also be used as an alternative to timber and cardboards for making calcium plastic packing containers, furniture, doors and windows.