PENTUSOIL

PETROCHEMICAL SOLUTIONS FOR A BETTER FUTURE

Polymers

Polyethylene, polystyrene, polypropylene, ABS and synthetic rubber, sourced against the grade your process was specified around.

- 104 producer grades across five polymer families
- Named producer grade on every quotation
- Certificate of analysis where the producer supplies it
- Technical review before order where the application is unusual

INTRODUCTION

How to read this catalogue

A polymer order goes wrong for one of two reasons: the wrong grade was specified, or the right grade was quoted and something else arrived. Both are avoidable. Every enquiry we take is answered with a named producer grade, its melt index and density range, and the application it was designed for.

The grade codes listed here are the ranges we source. Availability moves with producer allocation, so confirm a grade with us before you commit a production slot. Properties quoted by producers vary batch to batch within published tolerances; where an application is sensitive to that, ask us for the certificate of analysis before shipment rather than after.

What decides a grade

- Melt flow index. Low for pipe, sheet and large mouldings; high for thin-wall injection and fibre.
- Density. Drives stiffness, barrier performance and shrinkage on cooling.
- Molecular weight distribution. Broad for extrusion stability, narrow for low warpage and fibre spinning.
- Additive package. UV stabilisation, antioxidants, slip and antiblock, nucleation, flame retardancy.
- Process method. The same end product made by injection, extrusion or blow moulding needs different grades.

FAMILY 01

Polyethylene

Polyethylene is specified by density and melt flow before anything else. HDPE gives stiffness and pressure rating. LDPE gives softness, clarity and seal strength. LLDPE adds puncture and tear resistance to thin film. MDPE sits between the two and is the usual choice for gas distribution pipe.

HDPE

High density polyethylene. Stiff, pressure-rated and chemically resistant. For pipe the specification is usually a class, PE 80 or PE 100, rather than a grade.

19 GRADES

- 7000 F
- EX 5
- HFI 5110
- PE 80+
- EX 3 (PE 100)
- HMCRP 100 N
- HMCRP 100 B
- 7700 M (PE-100)
- HB 0035
- HF 4760-BL 3
- HBM 5510
- 52505 UV
- HD 6070 UA
- 62N07
- HD 60507 UV
- HD 52518
- 52528
- HD 5030 SA
- HD 5000 S

LDPE

Low density polyethylene. Soft, clear and easy to seal, with a wide processing window and good bubble stability on a blown film line.

15 GRADES

- 1922
- 2420D
- LFI2130
- LH0075
- 2420E02
- 2426 E02
- LFI2119
- 2420H
- LF0200
- LFI2125A
- 2420K
- LFI2047A
- 2420F3
- 2420F
- 2420F8

LLDPE

Linear low density polyethylene. Tear strength, puncture resistance and elongation well beyond LDPE at the same density, which is what allows film to run thinner.

9 GRADES

- LL 235 F6
- LL 0209 AA
- LL 0209 KJ
- LL 22B01 AA
- LL 22B02 AA
- LL 22B03 AA
- LL 18B03
- LL 0220 AA
- LL 0220 KJ

MDPE

Medium density polyethylene. Enough stiffness to hold a pressure rating while keeping the slow crack growth resistance buried pipe needs.

2 GRADES

- 3840 UA
- HBM 4265

POLYETHYLENE APPLICATIONS

- Water, gas and irrigation pipe
- Blown and cast film for packaging
- Stretch wrap and shrink film
- Jerry cans, drums and IBC liners
- Crates, pallets and material handling
- Caps, closures and injection parts
- Geomembrane and pond lining sheet
- Cable insulation and jacketing

FAMILY 02

Polystyrene

Polystyrene splits into three commercial forms that share a base polymer and almost nothing else in how they are bought or used. GPPS is glass-clear and brittle. HIPS carries rubber for impact strength. EPS arrives as beads and becomes foam on your own line.

GPPS

General purpose polystyrene. Clear, hard and dimensionally stable, with excellent flow for thin-wall injection and sheet extrusion.

16 GRADES

- GPPS 1160
- GPPS 1161
- GPPS 1460
- GPPS 1540
- GPPS 1551
- GPPS 1018
- GPPS 1028
- GPPS 1034
- GPPS 1038
- GPPS 1047
- GPPS 1067
- GPPS 1077
- GPPS 1084
- GPPS 1115
- GPPS 1144
- GPPS 1233

EPS

Expandable polystyrene. Supplied as impregnated beads; bead size governs achievable surface finish and minimum moulded density.

13 GRADES

- 121 HS
- 221 HS
- 321 HS
- F50
- F100
- F150
- F250
- F350
- F450
- F 1000
- F 2000
- F 3000
- F 4000

HIPS

High impact polystyrene. Rubber-modified so the part deforms rather than shattering, at the cost of transparency.

3 GRADES

- HIPS 7240
- HIPS 7055
- HIPS 4125

POLYSTYRENE APPLICATIONS

- Disposable cups, trays and cutlery
- Yoghurt pots and dairy packaging
- Appliance and refrigerator liners
- Clear rigid and display packaging
- Protective transit packaging
- Insulation board and construction block
- Toys and household mouldings
- Point-of-sale display and signage

FAMILY 03

Polypropylene

The lightest commodity thermoplastic in common use and the one with the highest service temperature. The family divides on what the chain contains: homopolymer for stiffness and clarity, copolymer for impact strength in the cold, and dedicated pipe resins formulated for long-term hydrostatic strength.

PP Homopolymer

Pure propylene chains. The stiffest and clearest form, covering raffia, BOPP film, fibre, sheet and general injection moulding.

8 GRADES

- Hp 550 J
- HP 552 R
- C 30 S
- ZH 510 L
- ZR 348 U
- HD 225
- 1102 XL
- 1102 XK

PP Copolymer

Ethylene added to raise impact strength, particularly below zero. Block copolymer for toughness, random copolymer for clarity and flexibility.

7 GRADES

- EP 440 G
- EP 440 L
- EP 548 R
- EP 548 T
- RP-345 S
- RP 210 G
- RP 270 G

PP Pipe

PP-R resins designed around decades of service under pressure at temperature rather than around a short mechanical test.

4 GRADES

- MR 230
- PNR 230 C
- ZRT 230 C
- RG 3212 E

POLYPROPYLENE APPLICATIONS

- Woven sacks, raffia and FIBC fabric
- BOPP film for packaging and labels
- Caps, closures and living hinges
- Food containers and microwaveable packs
- Hot and cold water pipe systems
- Automotive bumpers and interior trim
- Non-woven fabric and staple fibre
- Crates, pallets and industrial mouldings

FAMILY 04

ABS

A terpolymer where each component earns its place: acrylonitrile for chemical resistance and heat stability, butadiene for impact strength, styrene for rigidity, gloss and processability. It moulds cleanly, machines and glues well, and finishes better than any other commodity polymer.

4 GRADES

- SD 0150
- ABS-40
- ABS-50
- ABS-70

Flame-retardant, plating and high-heat grades can be sourced against a confirmed order. Standard ABS yellows outdoors, so exterior parts need a stabilised grade.

ABS APPLICATIONS

- Appliance and electronics housings
- Automotive interior trim and consoles
- Luggage shells and cases
- Sanitary ware and bathroom fittings
- Toys and consumer products
- Pipe and fittings for drainage
- Extruded and thermoformed sheet
- Chrome-plated decorative parts

FAMILY 05

Synthetic Rubber

SBR and PBR are the two highest-volume synthetic rubbers in the world, and most tyre formulations contain both. SBR provides wet grip, tear strength and processability. PBR provides abrasion resistance and low rolling resistance, and stays flexible at low temperature where SBR stiffens.

SBR

Styrene butadiene rubber. The 1500 series is non-extended cold emulsion rubber; the 1700 series is oil-extended, which lowers cost and improves processing.

3 GRADES

- SBR 1712
- SBR 1502
- SBR 1500

PBR

Polybutadiene rubber. High-cis structure giving outstanding abrasion resistance and very low heat build-up. Used as part of a blend rather than alone.

1 GRADE

- PBR 1220

RUBBER APPLICATIONS

- Tyre tread and sidewall compounds
- Conveyor belting and industrial hose
- Footwear soles and technical goods
- Seals, gaskets and mouldings
- Impact modification of HIPS and ABS
- Adhesives and sealant compounds
- Roll covering and lining
- Anti-vibration and automotive mounts

COMMERCIAL

Supply and documentation

Material ships with the paperwork it needs to clear customs and satisfy an incoming inspection, arranged with the producer before the container is sealed rather than chased afterwards.

COMMERCIAL TERMS

Packing	25 kg bags on pallets, or 1,000 kg to 1,250 kg FIBC
Container loading	Palletised or floor-loaded to your preference
Minimum order	One full container; part loads by arrangement
Documentation	Packing list and certificate of origin; certificate of analysis and batch reference where the producer supplies them
Payment	TT; letter of credit by arrangement
Delivery terms	EXW, FOB, CFR, CPT
Samples	Available before a full container commitment, subject to source
Lead time	Subject to producer allocation; confirmed at order

If something is not right

If material does not perform as specified, we take it up with the producer on your behalf. We ask for the batch reference, photographs and, where it matters, a returned sample, then put the case to the source and come back to you in writing with the finding - including when the finding is that the material met specification.

Tell us what you need

Send us the material, application, grade or specification and the quantity you are working to. We will review the requirement, identify suitable options from our supply network and come back with what is available and on what terms. Where a substitution carries risk, we will say so.

Request a quote
pentusoiluk.com/rfq

Technical questions
support@pentusoiluk.com

General enquiries
sales@pentusoiluk.com | +44 (0) 7306 888 505

PENTUSOIL LTD
N. 28, Wingfield, Rotherham, South Yorkshire, United Kingdom
Polymers, geosynthetics and industrial films, sourced to specification.
Product ranges shown are indicative of what we can source and are not a specification. Availability, grades and properties vary by source and quantity. Confirm with us before ordering.