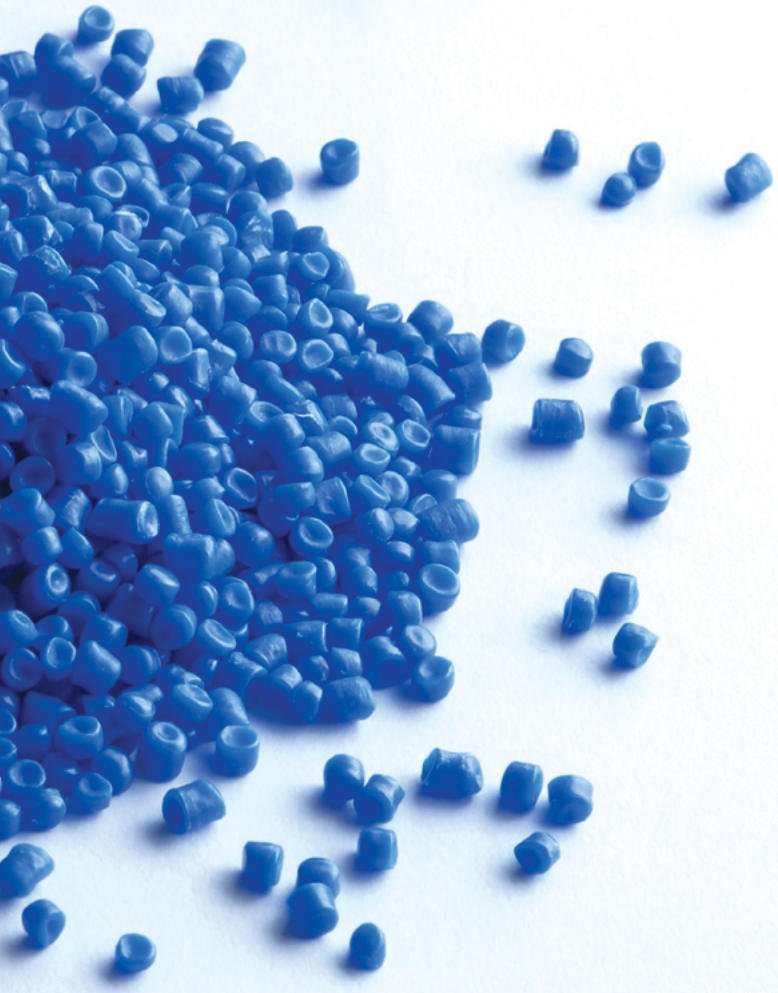

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High Density Polyethylene Grade Range

INEOS Olefins & Polymers Europe operates leading and proprietary slurry and gas production technologies (INNOVENE™ S and INNOVENE™ G) associated with a range of catalyst systems to produce grades tailored for a wide range of end use applications.

- Medium molecular weight homopolymer grades with high rigidity for the packaging of liquid food and non-aggressive liquids and creams
- Medium molecular weight copolymer grades with various levels of environmental stress cracking resistance (ESCR) to meet requirements of industrial and household applications. High molecular weight copolymer grades with optimised impact and environmental stress cracking resistance for the production of larger tanks and containers for chemicals
- Narrow molecular weight distribution grades with medium to high melt indexes for industrial and food packaging applications requiring good impact, stiffness and environmental stress cracking resistance (ESCR)
- Broader molecular weight distribution grades with low to medium melt indexes for a wide range of packaging applications requiring high environmental stress cracking resistance (ESCR)



Injection moulding range

Grade	MFR 190°C/2.16kg (g/10min) ISO 1133	Density Annealed (kg/m³) ISO 1183-1	Tensile modulus 23°C (MPa) ISO 527-2	Charpy impact strength Notched, 23°C (kJ/m²) ISO 179-1	Application
RIGIDEX® HD5050EA	4	950	1100	5.5	For applications requiring high ESCR, caps & closures, bins, crates & boxes, household items
RIGIDEX® HD5050UA	4	950	1100	5.5	UV stabilised version of HD5050EA
RIGIDEX® HD6030BM	4	960	1500	5	Multimodal grade for applications requiring high stiffness and ESCR, cartridges, caps & closures, technical parts, bins, crates & boxes, household items
RIGIDEX® HD5740UA	4	957	1100	4.5	UV-stabilised high density polyethylene copolymer grade for the injection moulding of heavy duty articles for outdoor use
RIGIDEX® HD5450UA	4.7	953.5	1000	5	UV stabilised grade for heavy duty outdoor use items, large dustbins, pails, pallet boxes, technical parts
RIGIDEX® HD6070EA	7.6	960	1500	4	For caps & closures, over caps, cartridges, crates, pallets, pails
RIGIDEX® HD6070UA	7.6	960	1500	4	UV stabilised version of HD6070EA
RIGIDEX® HD5211EA	11	951	1100	3.5	For thin wall applications, pails, cartridges, toys, caps & closures
RIGIDEX® HD6012EA	12	960	1500	3	For a wide range of injection and compression moulding applications
RIGIDEX® HD5218EA	18	952	1200	3	For fast cycling thin wall applications, caps & closures, pails, houseware
RIGIDEX® HD5226EA	26	953	1150	2.5	For fast cycling thin wall applications, caps & closures, pails, houseware





Blow moulding high molecular weight range

Grade	MFR 190°C/21.6kg (g/10min) ISO 1133	Density Annealed (kg/m³) ISO 1183-1	Flexural modulus 23°C (MPa) ISO 178	ESCR BTT 50°C/100% (h) ASTM 1693-97a	Application
RIGIDEX® HM5420XPHi	2.1	954	1400	> 1000	High stiffness and enhanced toughness grade for large blow moulded articles, UN and L-Ring containers for dangerous goods packaging
K46-06-185	4.2	946	1100	> 1000	Car fuel tank
RIGIDEX® HM4560UA	6	948	900	> 1000	Exceptional level of impact and ESCR, UV stabilised grade for IBC, large tank production
RIGIDEX® HM5060XA	6	950	1000	> 1000	Very high level of impact and ESCR grade, tailored for 25L container production
RIGIDEX® HM5510BM	9.5	954	1250	> 1000	Applications with enhanced stress-crack resistance and stiffness
RIGIDEX® HM5411EA	10	952	1100	> 1000	General purpose grade with high level of impact and ESCR, 1 to 25L containers
RIGIDEX® HM5119BM	20	951	1100	> 1000	Blow molding applications requiring very high environment stress cracking resistance

Blow moulding medium molecular weight range

Grade	MFR 190°C/2.16kg (g/10min) ISO 1133	Density Annealed (kg/m³) ISO 1183-1	Flexural modulus 23°C (MPa) ISO 178	ESCR BTT 50°C/100% (h) ASTM 1693	Application
RIGIDEX® HD5502S	0.2	955	1050	50	General purpose grade with exceptional level of impact performance
RIGIDEX® HD6007S	0.6	962	1700	20	High rigidity homopolymer grade for fresh milk and non-aggressive chemicals
RIGIDEX® HD4820EA	2.5	952	950	35	Specially formulated grade for exceptional levels of gloss
RIGIDEX® HD5802BM-R	0.3	956.5	1150	> 200	Multimodal grade with high stiffness and exceptional ESCR allowing significant weight reduction, chemical and detergent packaging





Low Density Polyethylene Grade Range

INEOS Olefins & Polymers Europe has developed a range of low density Polyethylene grades produced on state-of-the-art autoclave technology. These grades are free of any additive and are specifically suitable for the production of injection moulded products of colour concentrates and additive masterbatches for the moulding industry.

Low density polyethylene grades (all additive free)

Grade	MFR 190° C, 2.16kg (g/10 min) ISO 1133	Density 23° C (kg/m³) ISO 1183-1	Flexural Modulus (1) 23° C (MPa) ISO 178	Melting Point (2) 10°C/min (°C) INEOS DSC	Shore Hardness D (MPa) ISO 868	Vicat A (10N) (°C) ISO 306	Application
17L430, 17L430B	4	918	220	107	45	86	For general purpose injection moulding
23L430, 23L430B	4.5	924	190	111	52	96	For general purpose injection moulding
19N430, 19N430B, 19N930	7.5	920	145	108	47	88	For general purpose injection moulding
20N430	8.5	920	145	108	44	87	For injection moulding of thin walled containers and caps & closures
18R430	15	919	115	107	40	78	For injection moulding of thin walled containers and caps & closures
20T930	20	920	135	108	39	77	For injection moulding of thin walled containers, caps & closures and compounding
23T930-ES	22	923	180	110	49	92	For injection moulding of thin walled containers, caps & closures and compounding
24W930	55	923	160	110	47	89	For injection moulding of thin walled containers, caps & closures and compounding

(1) Measured on 4mm thick injection-moulded specimens

(2) Measured by Differential Scanning Calorimetry (10°C/min)



Metallocene mLLDPE ELTEX®
Grade Range

ELTEX® PF Metallocene products are manufactured in Europe, based on unique proprietary gas-phase process and catalyst technology. Since January 2013, INEOS has dedicated one plant exclusively to mLLDPE production.

Metallocene C6 mLLDPE range

Grade	MFR 190°C/2.16kg (g/10min) ISO 1133	Density Annealed (kg/m³) ISO 1183-1	Flexural modulus (*) 23°C (MPa) ISO 178	Melting Point 10°C/min (°C) INEOS DSC	Aox	Application
PF0101XA	1.3	902	80	86/115	yes	Toughness enhancer as blending partner for moulding applications
PF0601XA	1.3	906	90	92/115	yes	
PF0102XA	1.9	902	-	85/111	yes	
PF0103XA	2.8	902	-	85/111	yes	
PF0110XA	10	902	120	87/110	yes	
PF6130AA	3.5	918	168	104/117	yes	For injection moulding of flexible products and production of masterbatch and compounds
PF6140AA	4.5	918	168	104/117	yes	
PF1315AZ	15	914	145	96/114	no	
PF1320AZ	20	913	130	96/114	no	

(*) Measured on injection moulding specimen



Polypropylene Grade Range

INEOS O&P Europe operates four proprietary or non-proprietary gas and bulk production technologies (INNOVENE™ PP and others) to produce a broad pallet of polypropylene grades for the extrusion, blow moulding and injection moulding markets.

- Homopolymer grades for optimum stiffness, excellent hot fill characteristics and the best transparency from the latest generation clarifier
- Random copolymer from low to very high flow with very good to exceptional clarity and gloss obtained with the latest generation clarifier, all with very good stiffness and room or fridge temperature impact resistance
- Impact copolymer grades with excellent stiffness, cold temperature impact strength and chemical resistance

Homopolymer injection moulding range (low & medium MFR)

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, 23°C (kJ/m²) ISO 180/1A	HDT 0.45 MPa (°C) ISO 75/B	Nucleated	Antistatic	Application
100-GA03	3	1450	4	93	no	no	General purpose grade with very good rigidity and high heat resistance for injection moulding
150-GA03	3	1450	4	92	no	no	General purpose grade with very good rigidity and high heat resistance for injection moulding
100-GA04	4	1400	3	86	no	no	General purpose grade with very good rigidity and high heat resistance for injection moulding of rigid packaging and caps & closures
100-GB06	6	1450	3.5	86	no	no	General purpose grade for injection moulding of technical mouldings and caps & closures
101-CA06	6	1750	3	119	yes	yes	For injection stretch blow moulding
100-GA09	9	1500	3.5	104	no	no	General purpose grade for caps & closures, containers, straws and flexible packaging
101-GA09	9	1350	4	100	no	no	General purpose grade for caps & closures, containers, straws and flexible packaging
101-SA09	9	1450	3.5	103	no	no	Slip additive containing grade for caps & closures with right lubrication level to meet the opening torque requirements for screw caps
100-AA12	12	1450	3.5	100	no	yes	For injection moulding of thin wall containers, media packaging, house-ware, plungers for empty disposable 3-part syringes, caps & closures
100-GA12	12	1400	3.7	90	no	no	General purpose grade intended for containers, caps & closures, garden furniture, houseware







Homopolymer injection moulding range (high MFR)

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, 23°C (kJ/m²) ISO 180/1A	HDT 0.45 MPa (°C) ISO 75/B	Nucleated	Antistatic	Application
ELTEX® P HCW280	20	2200	2.7	130	yes	yes	Grade with high isotacticity and remarkably high stiffness for applications typical of Styrenic polymers: household goods, food packaging, appliances
100-GB25	25	1200	3.2	102	no	no	General purpose grade for high speed moulding in multi-cavity tooling applications like thin wall parts and garden furniture
100-CB25	25	1500	3.9	110	yes	yes	For high speed injection moulding of rigid packaging, thin wall containers, technical parts, houseware, media packaging and garden furniture
100-CA25	25	1600	4	110	yes	yes	For high speed injection moulding of transparent thin wall containers & consumer goods and syringes
100-HR25	25	1800	3.3	126	yes	yes	For high speed injection moulding of thin-walled injection moulded articles, caps & closures, technical and electronic parts
180-HR25	25	1800	3.3	126	yes	yes	100-HR25 produced with a non-phthalate based catalyst
194-NA25	25	1750	3	116	yes	yes	Clarified grade for injection of consumer products, transparent containers and medical syringes
100-GA35	35	1350	3.3	78	no	no	General purpose grade for thin wall injection moulding, masterbatch and compound applications
100-CA50	50	1550	3	115	yes	yes	Grade designed for high speed injection moulding of thin walled containers for dairy and fresh food, food trays, houseware articles and disposables
100-CC60	60(*)	1800	3	118	yes	yes	Clarified grade with excellent rigidity and transparency for thin wall containers, household goods and media packaging
101-CC60	60	1800	3.5	100	yes	yes	Clarified grade with excellent rigidity and good transparency for thin wall containers, household goods and media packaging

(*) Grade clarified with the latest generation clarifying agent



Homopolymer blow moulding & extrusion range

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, 23°C (kJ/m²) ISO 180/1A	HDT 0.45 MPa (°C) ISO 75/B	Nucleated	Antistatic	Application
100-GA01	0.9	1550	4.5	98	no	no	General purpose grade with very good rigidity and high heat resistance used for sheets, blow moulding and strapping applications
100-GA02	2	1450	4	95	no	no	Very good rigidity and high heat resistance grade used in thermoforming of food containers, yoghurt cups and very thin walled technical mouldings
150-GA02	2	1450	4	93	no	no	General purpose grade with very good rigidity and heat resistance used in thermoforming, sheets, strapping and small rigid blow moulding applications
151-GA02	2	1300	4	92	no	no	For sheet extrusion applications requiring a good melt strength and processability
100-GA03	3	1450	4	93	no	no	General purpose grade with very good rigidity and high heat resistance for extrusion and thermoforming applications
100-NB03	3	1800	3	126	yes	no	For sheet extrusion and thermoforming applications like beer cups, transparent trays for biscuits, fruits and vegetables, food containers
100-NB03S	3	1800	3	126	yes	no	For sheet extrusion and thermoforming applications like beer cups, transparent trays for biscuits, fruits and vegetables, food containers
102-CA03	3	1800	3	126	yes	low level	For sheet extrusion and thermoforming applications like transparent trays for biscuits, fruits and vegetables, food containers
100-CA03S	3	1800	3	126	yes	low level	For sheet extrusion and thermoforming applications like transparent trays for biscuits, fruits and vegetables, food containers
150-GA03	3	1450	4	92	no	no	General purpose grade with very good rigidity and high heat resistance used in thermoforming, sheets and strapping
100-GA04	4	1400	3	86	no	no	General purpose grade with very good rigidity and high heat resistance intended for extrusion and thermoforming applications
100-GB06	6	1450	3.5	86	no	no	General purpose grade for extrusion applications like thin sheet extrusion, thermoforming
101-CA06	6	1750	3	119	yes	yes	For applications like very transparent and rigid sheets for thermoformed food and non food containers





Random copolymer injection moulding range (all clarified)

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, 23°C (kJ/m^2) ISO 180/1A	Antistatic	Application
200-CA10	10	1200	5	yes	For articles with high transparency and excellent surface appearance
240-CA12	13	850	8	yes	Very high clarity, high gloss grade with high impact strength down to 0°C for houseware, caps & closures, lids & pails, appliances
200-CA13	13	1100	6	yes	High clarity grade for houseware, injection stretch blow moulded items, caps & closures, lids & pails, appliances
200-CA20	20	900	6.5	yes	Household goods, thin wall packaging, caps
205-CA25	25(*)	1100	5	low	Very high clarity grade for houseware, candy boxes, caps & closures, lids & pails, appliances
200-CA25	25	1100	5	yes	High clarity grade for houseware, candy boxes, caps & closures, lids & pails, appliances
205-CA40	40(*)	1100	5	yes	Very high clarity, high flow grade for caps & closures, houseware, food containers
200-CA40	40	1100	5	yes	High clarity, high flow grade for caps & closures, houseware, food containers
200-CA70	70	1100	5	yes	High clarity, very high flow grade for caps & closures, houseware, food containers

(*) Grade clarified with the latest generation clarifying agent





Impact copolymer injection moulding range

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, -20°C (kJ/m^2) ISO 180/1A	Nucleated	Antistatic	Application
ELTEX® TUB 400-IM01	0.8	1500	8(*)	yes	no	For fittings and manholes, offering excellent dimensional stability and good long term stability
400-GA03	2.5	1250	7	no	no	For thick wall products such as pallets, crates and large containers
400-GA05	5	1200	6.5	no	no	For appliances, luggage, technical parts and returnable transport packaging
401-NA06	6	1200	3	yes	no	For toys, large pails and crates
300-CA06	6	1500	5	yes	yes	Medium melt flow rate antistatic and nucleated high rigidity impact copolymer for injection moulding applications
RIGIDEX® P CAP986S	6.5	1500	4	yes	yes	For bi-component screw-caps for carbonated drinks, produced with a non-phthalate based catalyst
400-CB08	8	1200	6	yes	yes	For returnable transport packaging, offering superior balance of stiffness and impact resistance
402-CB12	12	1350	6	yes	yes	For returnable transport packaging, offering superior balance of stiffness and impact resistance
540-NA13	13	1150	9.5	yes	no	For crates & boxes, luggage as well for the production of compounds, offering very high impact resistance
500-GA20	20	1000	6	no	no	For toys, appliances and containers, offering very good cold impact temperature
400-CA25	25	1550	4.5	yes	yes	For returnable packaging, pails and houseware, offering high stiffness and low warpage
540-NA30	30	1000	9	yes	no	For crates & boxes, luggage as well for the production of compounds, offering very high impact resistance
RIGIDEX® P 451-HP40	38	1350	4.5	yes	yes	For ultra-fast moulding of large food and industrial containers
RIGIDEX® P 350-HP45	45	1500	4	yes	yes	High flow, high rigidity nucleated and antistatic impact copolymer for fast cycling, thin walled injection moulding applications
401-CB50	50	1300	4.2	yes	yes	General purpose grade for thin wall containers and technical parts
RIGIDEX® P 450-HP60	60	1400	4.2	yes	yes	Very high flow grade offering a unique combination of high stiffness, good impact resistance and very low warpage
540-NA60	60	1000	7	yes	no	For crates & boxes, luggage as well for the production of compounds, offering very high impact resistance
RIGIDEX® P 480-HP90	90	1350	4.2	yes	yes	Very high flow grade offering a unique combination of high stiffness, good impact resistance, very low warpage and produced with a non-phthalate based catalyst
RIGIDEX® P 381-H100	90	1350	3	yes	yes	Very high flow nucleated and antistatic impact copolymer designed for fast cycling, thin walled injection moulding applications. Produced with a non-phthalate based catalyst
RIGIDEX® P 380-H100	90	1550	3.4	yes	yes	Very high flow grade offering a unique combination of very high stiffness, low warpage and produced with a non-phthalate based catalyst

(*) Notched charpy

Random copolymer blow moulding & extrusion range

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, 23°C (kJ/m²) ISO 180/1A	Clarified	Antistatic	Application
240-NA02	1.5	850	25	yes	no	Excellent clarity and impact resistance grade for small to medium size bottles & containers for household chemicals & personal care, cosmetics
200-CA02	1.7	1000	10	yes	yes	High clarity grade for blow moulded cosmetics, household chemicals, detergent containers, sheet, thermoformed packaging
242-NA02	1.8	900	25	yes	no	Very good clarity and impact resistance grade for small to medium size bottles & containers for household chemicals & personal care, cosmetics. For mono or multi layer bottles
243-NA02	1.8	900	25	yes	no	Very good clarity and impact resistance grade for small to medium size bottles & containers for household chemicals & personal care, cosmetics. For mono or multi layer bottles
200-GB02	1.8	1000	7.5	no	no	Food packaging, textile packaging, flowers packaging, lamination films and stationary supplies
203-NA02	1.9	1150	7	yes	no	Grade combining high heat resistance and very good clarity, ideal for the production of hot filled mono- & multilayer barrier bottles and containers
200-GA02	2	950	10	no	no	General purpose grade for small bottle blow moulding, for stationery application sheet extrusion and thermoformed containers
200-NA02	2	1000	10	yes	no	Excellent clarity grade for small to medium size bottle blow moulding, for transparent sheets and clear thermoformed containers
200-GA04	3.8	950	8	no	no	General purpose grade for stationery application sheet extrusion and thermoformed containers

Impact copolymer blow moulding & extrusion range

Grade	MFR 230°C/2.16kg (g/10min) ISO 1133	Flexural modulus 23°C (MPa) ISO 178	Izod impact Notched, -20°C (kJ/m²) ISO 180/1A	Nucleated	Antistatic	Application
ELTEX® TUB 433-NA00	0.3	1500	7(*)	yes	no	For blow moulding of medium to large bottles & containers, offering high stiffness, very good cold impact and excellent melt strength
ELTEX® TUB 350-HM00	0.3	1850	6(*)	yes	no	For blow moulding of medium to large bottles & containers, offering very high stiffness, very good cold impact and excellent melt strength
ELTEX® TUB 400-IM01	0.8	1500	8(*)	yes	no	For fittings and manholes, offering excellent dimensional and long term thermal stability
ELTEX® P RF180	0.8	1300	5	no	no	Good cold impact resistance and stiffness, for blow moulding of small to medium size bottles and containers. Produced with a non-phthalate based catalyst
401-NA01	1.2	1300	7.5	yes	no	For small to medium size bottles and containers, synthetic cardboard, offering excellent cold impact resistance and good stiffness
400-NA01	1.5	1300	7.5	yes	no	For small to medium size bottles and containers, synthetic cardboard, offering excellent cold impact resistance and good stiffness
500-NA01	1.5	1300	10	yes	no	For corrugated pipes, conduit pipes and twin-wall sheets offering very high impact with long term stability
400-GA03	2.5	1250	7	no	no	For sheet extrusion and blow moulding with good impact strength

(*) Notched charpy



About us

INEOS is one of the world's largest chemical companies, founded in 1998. INEOS Olefins & Polymers Europe is a leading producer of olefins and polyolefins.

INEOS Olefins & Polymers Europe offers a full range of high value polyolefins solutions for market applications such as food and industrial packaging, pipe and automotive through dedicated sales, and technical service teams.

INEOS is a safe and environmentally responsible company. We are engaged in developing our sustainable agenda to improve our operations and to implement sustainable solutions for our customers. This includes products that offer lightweighting, energy efficiency, durability (extended lifetime) or conservation of resources. We care.

ECO EXCELLENCE
Our sustainable journey

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