

# INEOS

## Olefins & Polymers Europe

Your partner in

HDPE  
PERFORMANCE  
PIPES

Our solutions  
for PE Pipes

INEOS



**We offer a wide range of  
high value polyethylene  
solutions for pressure  
and non-pressure pipe  
applications.**

**INEOS Olefins & Polymers Europe**

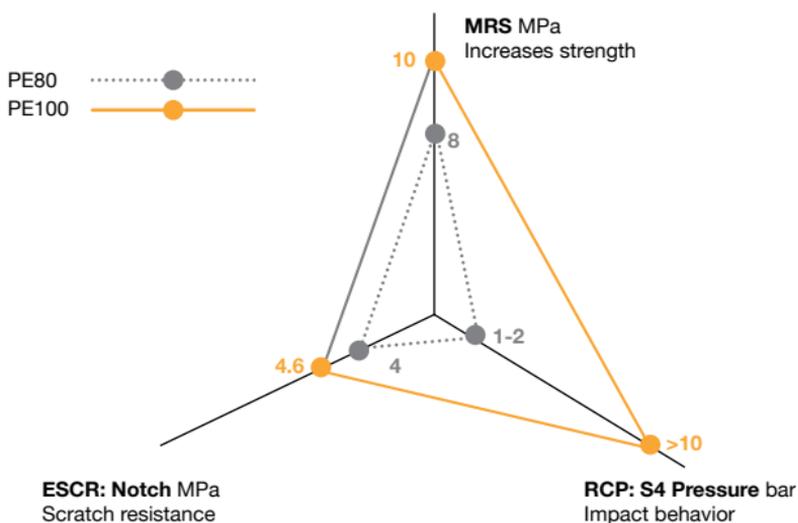
## PE80, PE100 & PE100-RC

For drinking water and gas transport and much more...

PE80 and PE100 compounds are designed to produce pipes whose main application is the transport of gas and drinking water under pressure for a guaranteed lifetime up to 100 years. They are classified and tested according to ISO 4427 and EN 12201 for drinking water application or ISO 4437 and EN 1555 for gas application.

Both types of grades demonstrate a good balance between 3 main properties:

- / **Creep resistance and long term strength**, through the MRS classification as defined in ISO 12162 based on ISO 9080
- / **Stress cracking resistance**, critical property to avoid initiation and propagation of cracks due to scratches during installation or point loading
- / **Rapid crack propagation resistance**, mainly for gas application, to avoid bursting due to sudden break caused by an external stress (hit by an excavator,...)



# PE80 compounds

## For most versatile performance pipe

PE80 compounds exhibit a lower density than PE100 compounds which translates into a higher flexibility making it the ideal material to produce connection pipes. Pipe producers appreciate the low viscosity of medium density PE80 which makes it very easy to process with a smooth and shiny surface aspect.

Typical applications for PE80 compounds:

- / drinking water
- / gas
- / fittings, accessories
- / casing
- / jacketing
- / industrial
- / sewage & drainage



<b>MEDIUM DENSITY PE80 COMPOUNDS</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
ELTEX® TUB171	Black PE80 pipe compound	949	0.85
ELTEX® TUB172	Yellow PE80 pipe compound for gas pipes	939	0.85
ELTEX® PC 002-50R968	Blue PE80 compound for water pipes	943	0.9

<b>HIGH DENSITY PE80 COMPOUND</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
ELTEX® TUB131N2010	Black bimodal PE80 pipe compound	954	0.45

<b>NON PRESSURE (*)</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
RIGIDEX® K38-20	Natural grade for non pressure applications	938	0.85

(\*) Non pressure applications include casing, jacketing, sewage and many other final uses. PE pipes are environmental friendly and easy to process, allowing to produce low cost pipes with a long lifetime expectancy. We offer a natural medium density grade similar to our PE80 grades in terms of product design.

## PE100 Compounds

### The high performing material generation

PE100 is the third generation of HDPE grades for pressure pipe application. Due to a higher pressure resistance, pipe thickness can be reduced compared to PE80 for a same nominal pressure or pressure can be increased to cover the whole range of pressures typical for drinking water and gas distribution networks. PE100 compounds demonstrate an excellent balance between the 3 main properties: stress cracking, pressure and impact resistances.

INEOS Olefins & Polymers Europe proposes a full range of ready-to-use compounds for drinking water and gas transport but also suitable for mining and industrial applications.

<b>BLACK PE100 COMPOUNDS AND ASSOCIATED STRIPE COMPOUNDS</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
ELTEX® TUB121	Black PE100 compound especially suited for fittings	959	0.45
ELTEX® TUB121N3000	Black PE100 compound, low sagging for large diameter pipes	960	0.25
Stripe	ELTEX® B4922/20N3000 ELTEX® B4922/40N3000 ELTEX® B4922/50N3000 ELTEX® B4922/90N3000		

<b>COLOURED PE100 COMPOUNDS</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
ELTEX® TUB124N2025	Blue PE100 compound for water pipes	950	0.3
ELTEX® TUB125N2025	Orange PE100 compound for gas pipes	952	0.3

# PE100-RC Compounds

## Unprecedented resistance to stress cracking

PE100-RC (Raised Crack resistance) compounds demonstrate a step-out resistance to stress cracking. This allows extension of the application fields of current PE100 resins to new horizons. The improved stress cracking resistance makes it safe to install pipes made of PE100-RC in more severe conditions such as no dig techniques or sandless trench installation. For more details please ask for our leaflet dedicated to our Superstress® grades.

PE100-RC		Density kg/m <sup>3</sup>	MI5 g/10 min
ELTEX® Superstress® TUB121N6000	Black PE100 compound with step-out stress cracking resistance	959	0.3
ELTEX® Superstress® TUB121N9000	Black PE100 compound with step-out stress cracking resistance, low sagging for thick pipes	959	0.24
ELTEX® Superstress® TUB124N6000	Blue PE100 compound with step-out stress cracking resistance	953	0.3
ELTEX® Superstress® TUB125N6000	Orange PE100 compound with step-out stress cracking resistance	952	0.3

Due to this combination of properties, HDPE pipe grades perfectly meet the challenge of sustainable development and energy efficiency. Independent studies have demonstrated that HDPE pipes have a carbon footprint much lower than traditional materials on their whole lifecycle from production of HDPE material to recycling of pipes after their many years of service.

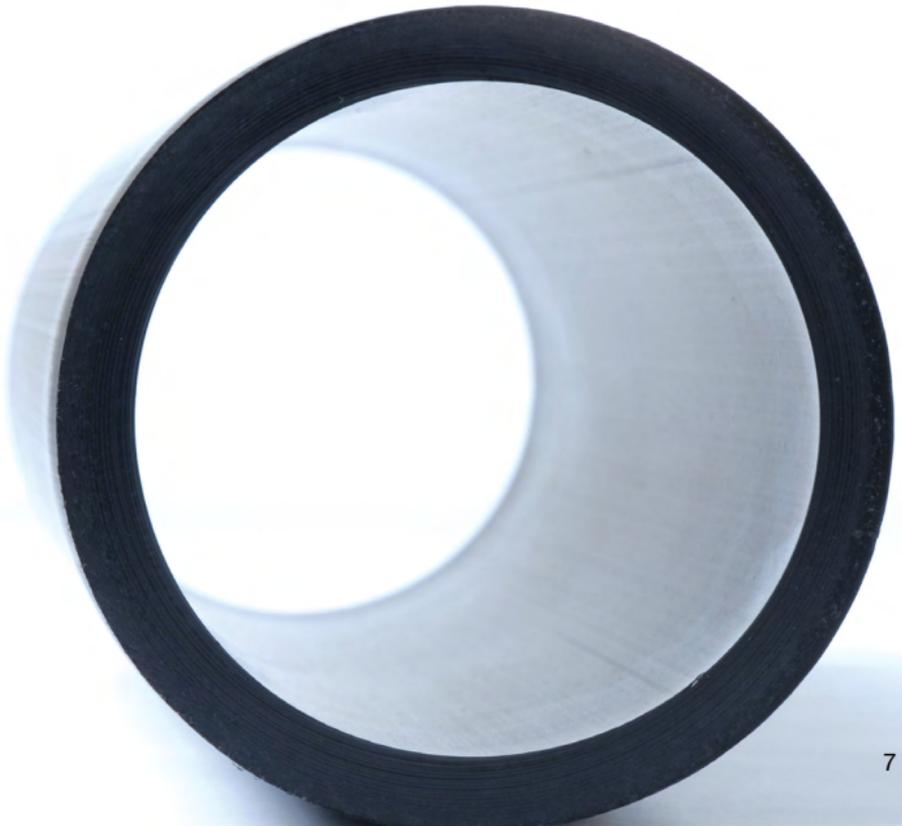


The impact on environment during installation of HDPE pipes is also very limited due to the limited number and size of machines needed on site to install HDPE pipes compared to traditional materials, mainly because of the light weight of HDPE material.

## PE100 for Higher Service Temperature

We offer Eltex® TUB12x NRG (“ENERGY”) as natural and black bimodal PE100 compounds to answer demand for Industrial applications requesting PE100 materials with improved resistance to temperature (> 40°C). Their improved stress cracking resistance make them safe to install pipes even under the most demanding conditions.

<b>PE100 for Higher Service Temperature</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI5</b> g/10 min
ELTEX® TUB120 NRG	Natural MRS10 grade PE-RT Type II (ISO24033) with step-out stress cracking resistance	949	0.3
ELTEX® TUB121 NRG	Black PE100 compound with step-out stress cracking resistance, low sagging for large diameter / thick pipes and improved resistance to temperature (> 40°C)	959	0.24



## Hot & Cold Water

In the field of heating and plumbing pipe applications, plastic pipes offer a very attractive alternative to traditional copper pipes owing to their ease of installation, resistance to corrosion and lightweight properties. Polyethylene materials PE-X and PE-RT are leading the growth of this market.

Eltex® A4040 is dedicated to the PE-Xb technology and is perfectly suited both for one step and two steps process. Eltex® A4040 is well known on the market for its flexibility and easiness to process.

PE-RT type II material Eltex® TUB220-RT is the latest introduction to the heating & plumbing product range. Owing to a unique molecular architecture, Eltex® TUB 220-RT benefits from the advantages of high extrusion processability combined with high pipe flexibility and high resistance to oxidation.

<b>PE-X/PE-RT</b>		<b>Density</b> kg/m <sup>3</sup>	<b>MI2.16</b> g/10 min
ELTEX® A4040	Base resin for crosslinkable pipes for hot & cold water applications (PE-Xb, Sioplas & one step)	944	3.5
ELTEX® TUB220-RT	Natural resin meeting type II PE-RT (polyethylene of raised temperature resistance)	937	1.2

## Non Pressure

We offer Eltex® B4922N3004 and B4922N2025 as natural bimodal HDPE resins with slight stabilization package and Eltex® TUB123N6000 as white compound with UV resistance.

These grades with no long term classification can be used in non pressure applications such as mining, industrial fields ...

NON PRESSURE		Density kg/m <sup>3</sup>	MI5 g/10 min
ELTEX® B4922N3004 B4922N2025	Natural grade for non pressure applications	949	0.3
ELTEX® TUB123N6000	White compound with UV resistance	980	0.33





## 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.



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