



# TKP-REFLEX

HDPE pipe with sunbeam reflector





CONDUCTING OUR  
CLIENTS NEEDS



TKP Inc. is the international commercial Technical and Marketing division of Fluidos Industriales Mexicanos – FIMEX.

FIMEX - TKP is an ISO 9001-2015 QMS certified manufacture with corporate offices and manufacturing facility in Monterrey, Mexico. FIMEX has been in the Plastics and Geomembrane industries for over 25 years serving the Mexican and US markets.

Our Polyethylene Pipe facility is equipped with some of the most modern and up to date extrusion lines in North America with multi-layer and striping capabilities to meet various industry's needs. Our fabricated fittings facility utilizes some of the world's highest precision fabrication equipment for miter and saddle fusion to supply standard fittings and custom fusion of manifolds.

TKP's Engineering and Technical staff has over 100 years of experience in the thermal plastics industries serving North America.

TKP is committed to continued development of new products to solve industry needs such at the new TKP-TR temperature resistant pipe for various applications and the TKP-AR abrasion resistant pipe to help in those difficult applications to extent the life of the pipe and reduce cost of shut downs.



COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
ISO 9001

# QUALITY CERTIFICATIONS & LABORATORY

TKP Inc. commitment is to approach our clients to know your needs and satisfy them with products that comply with the requirements of functionality and quality, seeking to improve continually our performance, achieving the growth of our organization.

We offer our PE-4710 pipe, included in the **TR4 of the PPI (Plastic Pipe Institute)**, supported by our excellent allies and suppliers of the best resins available on the market. TKP piping and fittings meet applicable standards for operation in the United States.

Our Quality system complies with the **ISO-9001: 2015** standard.

The pipe is manufactured according to the general use standards for different applications:

We are using a resin that complies with **ASTM D3350**.

We manufacture pipe under these standards:

- **ASTM F714**
- **ASTM D 3035**
- **ASTM F 2619**
- **AWWA C 906**
- **NSF 14/61**



In addition, our manufacturing plant in Monterrey Mexico, has a laboratory equipped to verify the qualities of our products:

- **Density**
- **Flow index**
- **Tensile strength**
- **Content of Carbon Black**
- **Hydrostatic pressure resistance**



TKP has developed the TKP - REFLEX pipe with coextruded outer layer in white HDPE with high performance UV stabilizers and black interior body, complying with ASTM F714



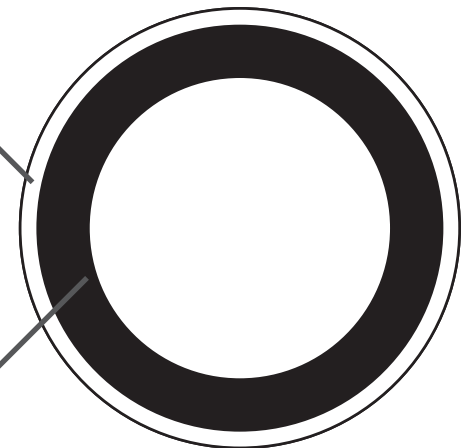
## TKP-REFLEX

# KEY ADVANTAGES ◆◆◆◆◆

- ◆ Sunbeams reflecting white outer layer with UV stabilizers of the latest generation.
- ◆ The heat absorption is less than half:  
PE-4710 black pipe: 95%  
TKP-REFLEX pipe: 41%
- ◆ Manufactured in diameters of 3" - 48" IPS, SDR 7 - 41.
- ◆ TKP-FIT offers a full range of prefabricated fittings.
- ◆ Lowest correction factor for temperature: 82% working pressure of buried pipe, compared to 65% of PE-4710 black pipe.

**EXTERNAL LAYER**  
WHITE COLOR REFLECTS THE SUNBEAMS  
OPTION: OUTER LAYER OF PE100RC WITH  
HIGH TEAR STRENGTH AND STRESS CRACK  
RESISTANCE

**INNER LAYER**  
PE-4710 / PE 100



## TKP-REFLEX

# BENEFITS OF A LESS HEATED PIPE ◆◆◆◆◆

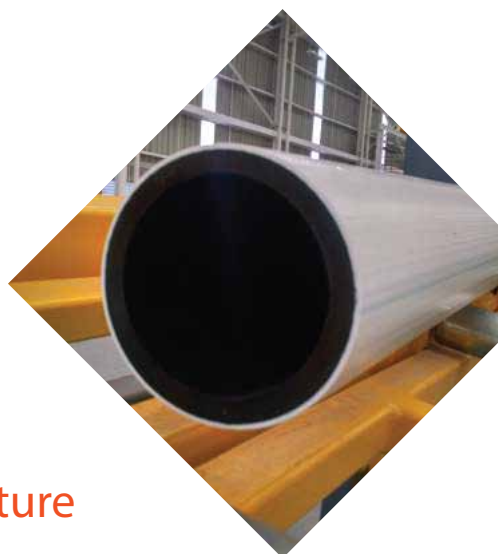
- ◆ Greater flow capacity and greater efficiency in pumping.
- ◆ Greater capacity to work in long lengths.
- ◆ Higher working pressure, longer pipe life TKP-REFLEX against black PE-4710.
- ◆ More economical conduction lines: less need to overdesign the tube to withstand working pressure, thinner tubes.
- ◆ 46% less thermal expansion and contraction than the black pipe, which represents savings in the length of the pipe, and less risk of finding the conduction pipe out of its original trace.
- ◆ The extra length for "snaking" pipe is reduced from 4% to only 2%.
- ◆ Much better movement up racks or supports.
- ◆ Lower anchor weight.



# TKP-REFLEX

## APPLICATIONS ◆◆◆◆◆◆

- ◆ Conveying of slurries in mining industry
- ◆ Water pipe batteries for oil & gas industry
- ◆ Any pipeline installed over ground



The answer for the problems of high temperature suffered by the pipes exposed to the sunlight

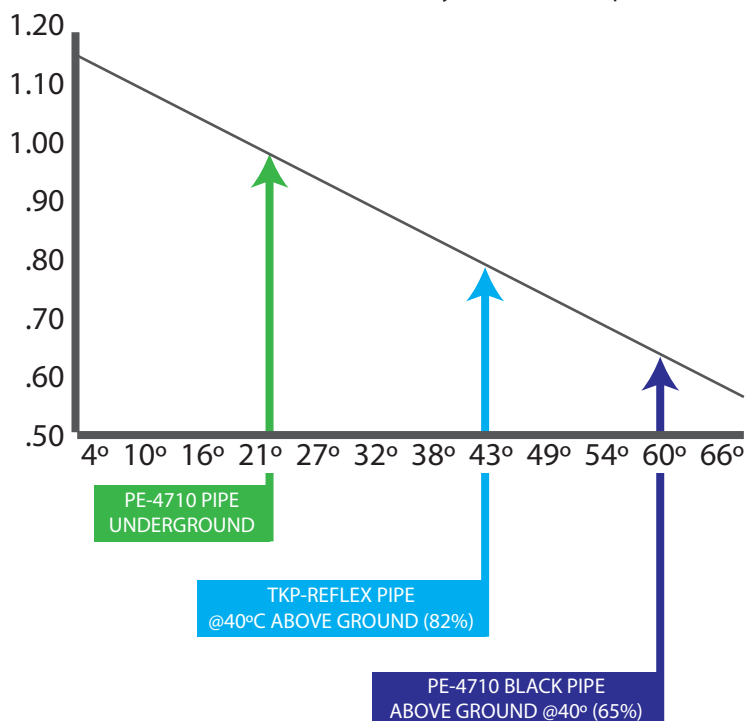
The following graph defines the percentages in which the working capacity of the high density polyethylene pipe increases or decreases as a result of the temperature, with the temperature coordinates and corresponding correction factor. As an example, at 23°C (73°F), when the pipe has a factor of 1.0, which is equivalent to 100% of its capacity. This temperature is usually recorded when the pipe is buried. The adjustment factor is essential to ensure the correct performance of the pipe, without risk of premature wear or over pressure failure.

The practical way to use it is as follows:

- 1 Setting the maximum working pressure for a DR by applying the factor: DR 15.5 has a pressure of 10 bar for 23°C (73°F), in case the Reflex pipe should be adjusted to 8.2 bar and for the black pipe PE4710 this Pressure decreases to 6.5 bar
- 2 When designing the pipe, if the required pressure is 10 bar, the RD for TKP Reflex is DR 13.5, while for the black PE4710 pipe is DR 9

GRAPH 1

Pressure's correction factors by means of temperature



\* For more information about **CHEMICAL AGENTS**, visit our website <https://www.tkp.mx/technicalinformation>



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Contact us,  
we will be ready to help you

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### Offices

9801 Westheimer Rd. Suite 302  
Houston, Texas  
77042, USA

**+1 (713) 917 6800**

### Headquarter Plant

Av. Tecnológico #483  
Monterrey Technology Park  
Ciénega de Flores, N.L.  
C.P. 65550, México

**+52 (81) 8384 7310**

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info@tkp.mx



**WWW.TKP.MX**

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 / Tkp inc. - Teknipipe & Supplies

 @fimex.tkp