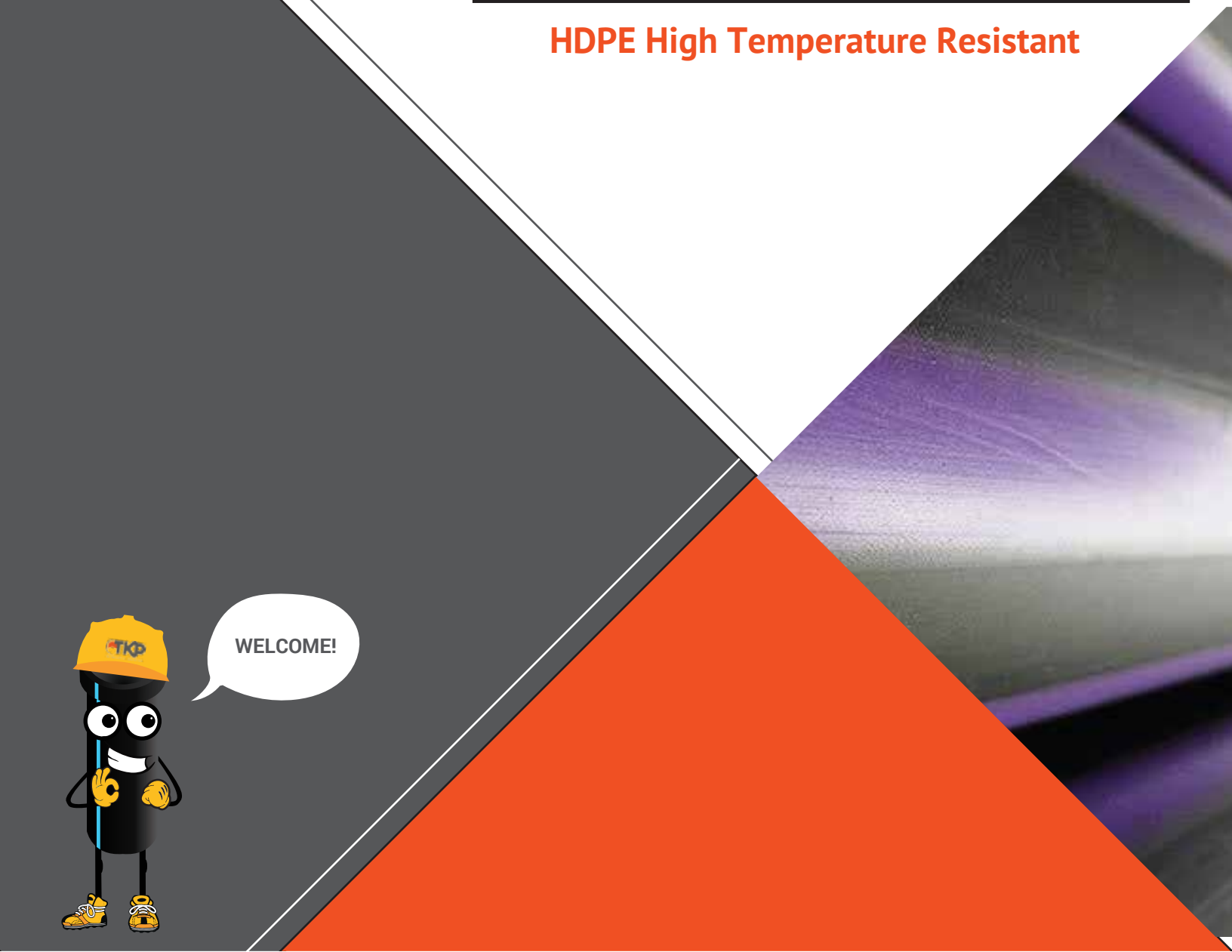
TEKNIPIPE & SUPPLIES

TKP - TR

HDPE High Temperature Resistant



TKP-TR

SCOPE

High density polyethylene pipe, TKP-TR brand, for use in the transport of pressure fluids at high temperatures.

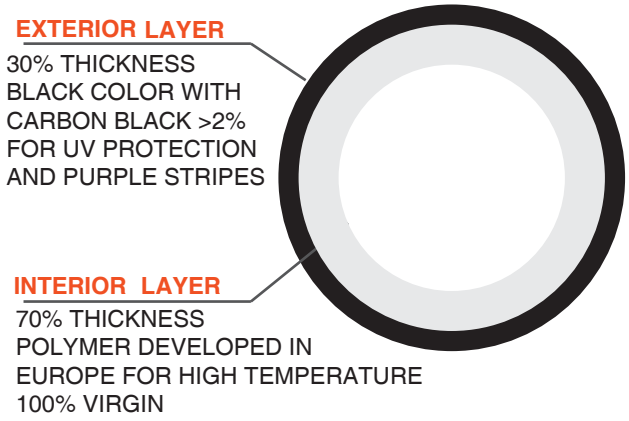
The TKP PE pipe line includes pipes and fittings in diameters from 3 " to 20“ IPS, DR from 7 to 11.

II.- RAW MATERIAL:

- The raw material that TKP uses for the production of its TKP-TR pipe is a Polymer resistant to high temperature developed with European technology for applications conducting water and various fluids in aqueous base until 180°F.

- Extruded with an internal layer in direct contact with the fluid, the natural color combines the complete qualities of the polymer without any kind of inorganic pigments, keeping the thermal resistance capacity intact.

- External layer, 30% is made using DGDA 2502 material and 2% Carbon Black Pigment effective as UV protection: Other colors, with UV protection are also available.



VALUABLE PROPERTIES

Higher standards in properties:
- Chlorine resistance.
- High quality water supply.
- Chemical resistance.
- Resistance to crack propagation.

- When the application is related with the transport of hot water:

Chlorine resistence:
TKP-TR is qualified in the highest ranking for chlorine resistance (CLASS 5) ,resisting towards oxidizing conditions tested with the chlorine resistance test (ASTM F2769 & ASTM F2023)

High quality chemical supply:
TKP-TR preserves the water purity and quality (taste and odor):
Value of 2 of the pipe tested with standard EN1622 @ 140°F with a maximum of 4 in the industry standard.

- When the application is related with the transport of industrial and chemical fluids:

Very good resistance against aggressive chemicals:
The high temperature resistance of TKP-TR , does not interfere with its chemical resistance, what means the pipe has the same resistance of the normal HDPE pipe.

- For all the applications:

Resistance of crack propagation:
TKP-TR pipe has more resistance to the crack propagation that normal PE-4710 or PE-100 pipe, and slightly less resistanbce than the PE-100RC pipe. Test applied to pre-nocht tested bars at 176°F, according with standard ISO 16770.

Industrial pipes**:
Combination of excelent pressure and temperature resistance make TKP-TR pipe well suited for industrial aplications:

INDUSTRY	SUBSTANCE
OIL & GAS	HYDROCARBONS/OIL
OIL & GAS	PROCESS WATER WITH/ H2S, CO2,SALTS
OIL & GAS	PROCESS WATER
FERTILIZERS	SULFURIC AND/OR PHOSPHORIC ACID
RARE METAL EXTRACTIONS	SULFURIC AND/OR PHOSPHORIC ACID

** NOTE: The applicable codes for the conduction of fluids with chemical substances must be reviewed.
In the case o f the USA, driving a fluid with more than 2% or more of hydrocarbons must apply an additional factor of 50% less working pressure.

PRESSURE & TEMPERATURE OPERATIONS TABLE

	OPERATION PRESSURE AND TEMPERATURE FOR TKP TR (PSI)					
	TEMPERATURE					
	68°F	100°F	120°F	140°F	160°F	180°F
DR 7	332	285	255.2	227	238.2	168.1
DR 9	249	214	192	169	150	126
DR 11	199.2	170	152.3	135	142	101

WORKING PRESSURE TABLE

	WORKING PRESSURE TABLE (PSI):		
Temp/time	DR 7	DR 9	DR 11
140°F/49 y	205.02	153.76	123.01
176°F/1 y	205.02	153.76	123.01
158°F/49 y	194.20	145.65	116.52
176°F/1 y	194.20	145.65	116.52
104°F/20 y	198.45	148.84	119.07
140°F/25 y	198.45	148.84	119.07
158°F/2.5 y	198.45	148.84	119.07
140°F/ 25y	168.44	126.33	101.07
176°F/10 y	168.44	126.33	101.07
194°F/ 1 y	168.44	126.33	101.07

Note: Conditions at 179.6 ° F are for 10 years of use, at 194° F, 1 year.
Maximum pressures are approved for specific applications in long-term pressure classifications. Pressures can vary with different chemical products, design or environmental factors, such as climate conditions. Unspeked results may require different or additional design factors for the required conditions, additional sizes and rd's are available, contact tkp or visit www.tkp.mx for more information.

TKP - TR MULTY-LAYER PIPE COMPLIES WITH, IN WHOLE OR PART, OF THE FOLLOWING STANDARDS:

- **MEXICAN:**
  NMX-E-18-CNCP
- **INTERNATIONAL:**
  ASTM F714
  ASTM F2619

MOST COMMON SIZES FOR TKP-TR

NOMINAL MEASURE		OUTER DIAMETER	DR 7		DR 9		DR 11	
			WALL THICKNESS	APPROX WEIGHT	WALL THICKNESS	APPROX WEIGHT	WALL THICKNESS	APPROX WEIGHT
MM	PULG.	MM	MM	KG/M.L.	MM	KG/M.L.	MM	KG/M.L.
150	6	168.3	24.0	10.847	18.7	8.784	15.3	7.361
200	8	219.1	31.3	18.410	24.3	14.863	19.9	12.466
250	10	273.1	39.0	28.595	30.3	23.100	24.8	19.364
300	12	323.8	46.3	40.240	36.0	32.531	29.4	27.218
400	16	406.4	58.1	63.378	45.2	51.262	37.0	42.979
500	20	508.0	72.6	99.001	56.4	79.974	46.2	67.091

*Expressed weights are only approximate, and inforamtive, they do not contitute a specification. in case of requiring a specific size not included in this table please contact TKP or visit www.tkp.mx.

Other specifications:

Ovality: < 3%
Eccentricity: 12% maximum
Carbon black content: > 2 % (External layer)
Elongation at brake > 400%
Maximum operative temperature: 82°C (180°F)

* For more information about chemical agents, visit our website **www.tkp.mx/informaciontecnica.**

TYPES OF FITTINGS

TKP offers to the Mining, Industrial and general fluid conduction market its TKP-FIT including a complete range of fittings to be connected to the pipe either by butt fusion, electrofusion or by flange adaptors and Iron Rings. The range of Fittings includes elbows, tees, flange adaptors and reductions, among others.

PP-Fiber Backing Ring

Ductile Iron Backing Ring

Flanges Adaptors

TKP
TEKNIPIPE & SUPPLIES

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we will be ready to help you

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