PERFORMANCE PIPE
A Division of Chevron Phillips Chemical Company LP

DriscoPlex® Pipe and Fittings Features and Benefits

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THERMOPLASTIC

- **A plastic that can be repeatedly softened by heating and hardened by cooling through a temperature range characteristic of the plastic, and that in the softened state can be shaped by flow into articles by molding or extrusion for example. (*ASTM F 412*)**
- **As opposed to Thermoset Plastics--FRP**

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The Benefits of an HDPE Pipe System

- Leak Free Piping System
- Excellent Flow Characteristics
- Lightweight and Flexible
- Outstanding Chemical/Corrosion Resistance
- Abrasion Resistance
- Exceptional Toughness
- Full Range of Pipe Sizes, Fittings and Pressure Capabilities

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Leak Free Joints

- **Butt Fusion joining of HDPE Pipe produces a leak free joint.**
- **No gaskets or hardware are required.**
- **Strong as the pipe itself**

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Leak Free Joints

- **Electrofusion joining produces leak free joints in confined spaces.**

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Excellent Flow Characteristics

- **Smoother ID than Steel, Cast Iron, Ductile Iron, or Concrete Pipe**
- **Smaller Pipe can Carry Equivalent Flow**
- **“Non-stick” Inner Surface & Corrosion Resistance Preserve Excellent Hydraulic Characteristics for Pipe Service Life**

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Lightweight & Flexible

- Produced in Straight Lengths & Coils
- Material About 1/8 Density of Steel
- Ability to Bend Reduces Need for Fittings
- Excellent for Use in Shifting Soils or Seismically Active Areas
- Reduced Effects of Freezing

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Lightweight & Flexible

- **Available in Long Lengths on Coils**
- **Dramatically Reduces Field Joining Required**
- **Pipe Can Often Be Bent to Accommodate Terrain/Installation Versus Use of Fittings**

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Lightweight & Flexible

- **Flexibility Allows Easy Installation by Horizontal Directional Drilling.**
- **Easily Follows Curves in Drill Hole**

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Lightweight & Flexible

- **Flexibility Eases Installation on Sliplining Projects**
- **Layout in Constrained Sites Eased by Flexibility**
- **Lightweight Reduces Equipment Requirements for Handling**

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Corrosion, Abrasion & Chemical Resistant

- More resistant to acids, bases & salts than most other pipe materials.
- Does not rust, rot, corrode, tuberculate or support biological growth.
- Requires neither special coatings nor cathodic protection.
- Excellent abrasion resistance

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Ductility & Toughness

- Resists External Loads
- Resists Vibrations
- Resists Pressure Surges
- Tolerates Handling and Bending in Severely Cold Weather
- Tough
- Impact resistant

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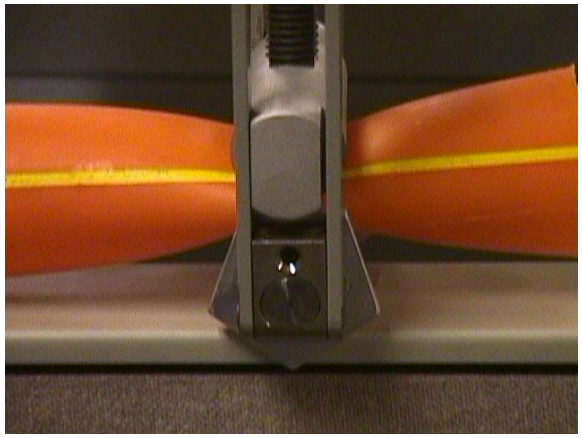
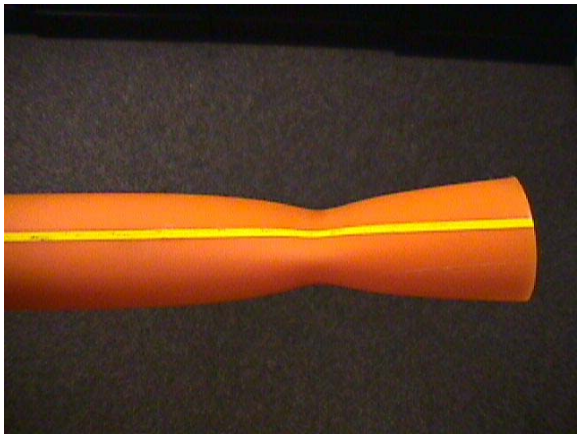
Ductility and Toughness

Squeeze Off

AS SQUEEZED



AFTER SQUEEZE



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Ductility at Low Temperature

- **Water can freeze in HDPE pipe without damaging it.**
- **Service temperatures as low as 50ºF below zero.**
- **Has reduced impact strength in sub-freezing conditions.**

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HDPE Pipe Sizes & Pressures

- **Solid Wall Conventional Extrusion**
- **OD Controlled Process**
  - CTS: 1/2” - 1 1/2”
  - IPS: 1/2” - 54”
  - DIPS: 4” - 30”
- **Standard Dimension Ratios (SDR’s)**
  - DR 7.3 (255 psi) to DR 41 (40 psi)
- **Pressure Rated up to 140ºF**
  - Non-pressure rated above 140ºF
  - Maximum use temperature 180ºF

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HDPE Fittings

- **Full Line of Pressure Molded up to 12”**

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HDPE Pipe Applications

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Municipal Applications

- Natural Gas
- Water
- Sewer (Gravity & Force Main)
- Odor Control
- Conduit

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Gas Collection / Transportation

- Unprecedented history of piping performance
- ASTM D2513
- Critical Application—cannot tolerate leakage
- 90% of gas distribution piping sold today is PE

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HDPE Municipal Applications

- Indianapolis Water operates 145 miles of HDPE
  - » Including large diameter water mains (20” – 36”)
- Over 8 years of experience with HDPE
- To date, upgraded roughly 30% of their system to HDPE

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Industrial Applications

- Power Plants, Co-Generation Plants
- Process Piping
- Fire Protection (FM)
- Acidic, Caustic, and Corrosive Conditions
- Outfall and Intake Lines

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Mining Applications

- Gold
- Copper
- Sand
- Silver
- Coal
- Phosphate

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Landfill Applications

- **Gas Collection and Transportation**
- **Leachate Collection and Transportation**

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Conclusion: Municipal Piping

- **Features and Benefits of High Quality HDPE Piping Systems are an Ideal Match with the Evolving Needs of the Water and Wastewater Industry**
  - **“Unaccounted For” or “Lost” water**
  - **Infiltration/Exfiltration**
  - **Pipeline failures (ruptures/collapses)**
  - **Rehabilitation costs upward to $350 Billion for US pipeline infrastructure**

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THE END