BKA Industrial Group
RTP, GRE, GRV Pipe, Fitting & Cladding

Spoolable Reinforcement Composite

RTP Pipe

About
BKA Company

- The most equipped and developed manufacturer of spoolable Reinforcement Composite Pipes (RTP), fittings, and integrated pipeline systems
- Obtaining laboratory accreditation certificate based on NACI 17025
- Performing long-term product quality test
- Special RTP for gas transportation: shale gas, natural gas, mixed hydrogen, pure hydrogen
- Fiber reinforced heat resistant polyethylene composite pipe: geothermal pipeline, heating branch line

Products Manufacturing Standards

Manufacturing products complying with these standards:

- **API 15S**: Wound Thermoplastic Pipes
- **API 17J**: Specification for Unbonded Flexible Pipe Systems
- **IPS-G-PI-600**: Iranian Petroleum Standard for Reinforced Thermoplastic Pipes
- **ASTM D3350**: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
- **ISO 11672**: Plastics Pipes and Fittings – Equipment for Fusion Jointing
- **ASTM D885**: Standard for Industrial Filament Yarns and Tire Cord Fabrics
- **ASTM D2256**: Standard for Tensile Properties of Yarns

Page | 02

Research & Development

Research and development is a key part of our activities. We work with various universities and graduates of prestigious universities to enhance our products.

We design products for different pressures and temperatures based on our clients' needs.

Laboratory Equipment

Our laboratory is equipped with the most advanced testing equipment. We carry out tests on manufactured products in accordance with relevant standards, including long-term product tests. We also cooperate with many partner laboratories to perform additional testing.

What is RTP?

A spoolable composite pipe is a flexible, reinforced thermoplastic pipe made of a thermoplastic liner and one or more reinforcement layers, capable of being coiled for transport and installation.

Composite pipe structure can be divided into two types:

1. Disbonded Composite Pipe
2. Bonded Composite Pipe

Feature	Bonded Composite Pipe	Disbonded Composite Pipe
Layer Bonding	Fused layers	Independent layers
Structural Integrity	High	Moderate to low
Gas Permeability	Excellent resistance	Potential leakage
Pressure Resistance	High	Lower
Layer Displacement	No relative movement	Possible under deformation
Durability	More durable in harsh environments	Less suitable for extreme conditions

Application Fields

RTP pipes are engineered to perform reliably across a wide range of fluid transport applications in different industrial environments.

1. Conventional Oil and Gas Field Gathering Pipeline
2. Acid Oil and Gas Field Gathering Pipeline
3. High Pressure Water Injection Pipeline
4. Sewage Conveying Pipeline
5. Water Supply Pipeline
6. Hydraulic Fracturing Flowback Liquid Pipeline
7. Coal Bed Gas Conveying Pipeline
8. Chemical Pipeline

Development in Structure and Application

Structure Development:

- **Small Diameter:**

From Specific Lengths to Continuous

- **Large Diameter:**

From Low Pressure to High Pressure

Application Development:

- From Water to Oil & Gas Systems
- From Surface to Well Depths
- From Onshore to Offshore

BKA Company Product Types

- **Disbonded RTP for Single Well Collection**

  Oil, Gas, Water Transportation
- **Steel-Reinforced Bonded RTP**

  Lakes and Shallow Seas
- **Aramid-Reinforced RTP**

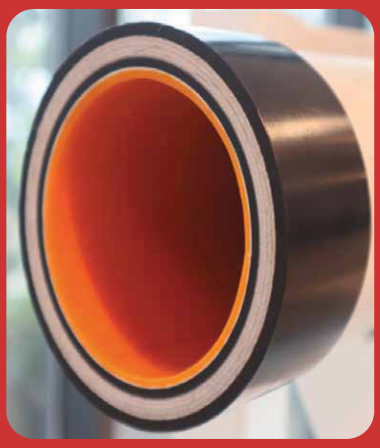
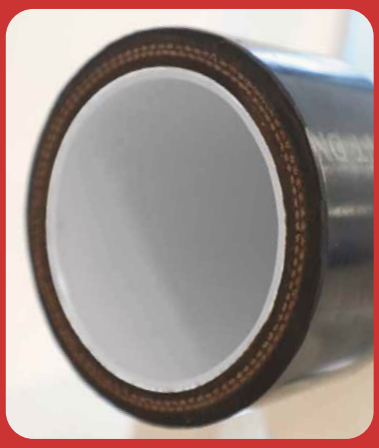
  High Temperature Resistance
- **Special RTP for Gas Transportation**

  Shale Gas, Natural Gas, Mixed Hydrogen, Pure Hydrogen
- **Mineral Fiber Reinforced Polyethylene Pipe**

  Underground Coal Mine Liquid Transport
- **Heat-Resistant Fiber Reinforced Polyethylene RTP**

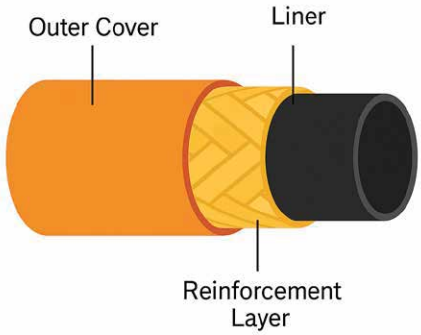
  Geothermal/Heating Branch Lines




Design & Materials

The RTP pipe structure is composed of multiple functional layers, each made of high-performance materials selected to ensure pressure resistance, chemical compatibility, and durability.



✓ Layer Structure:

Liner (Lining Layer):

PE, PEX, PERT, PP, UHMWPE, PA, PVDF, POK

Reinforcement Materials:

Polyester fiber, glass fiber, aramid fiber, steel cord, hybrid combinations

Cover Layer (Outer Protective Layer):

PE, TPU, or other UV/corrosion-resistant materials

✓ Joint Components:

Joint Materials:

Carbon steel, 316L, duplex stainless steel, 825 nickel alloy, titanium Alloy

Joint Connection Methods:

Threaded, non-metallic hot melt + electric melt, Haff sleeve, flange integrated joint

Product Variants by Reinforcement

This product range reflects flexible options in pressure rating and pipe dimensions.

- **Steel Cord PE RTP:**
  DN50–DN300, max pressure 20 MPa
- **Fiber Prepreg RTP:**
  DN50–DN500, max pressure 2.5–32 MPa
- **Polyester Twisted Filament RTP:**
  DN50–DN250, max pressure up to 20 MPa, coil length 100–3200 m

RTP Pipe Production Process

Inner Pipe Extrusion

Reinforcement Winding

Thermal Fusion (Heating and Bonding)

Outer Layer Extrusion

Finished Pipe Coiling

RTP Pipe Display & Installation

Rolled-up Coils



On-site Releasing



Installed RTP Pipelines



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