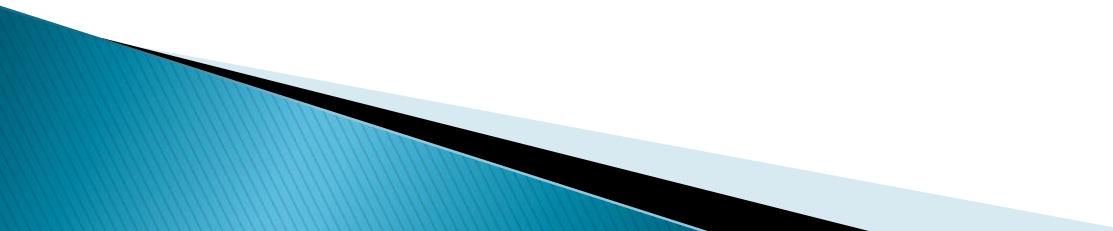


INFRASTRUCTURE SYSTEM



OUR VISION

To become a world brand by researching, developing and producing new Technologies that will form distinctions in transfer of the fluids

OUR MISSION

In order to transfer the fluids with the most optimal method; to achieve becoming a reliable and productive company by developing projects, products and systems peculiar to the problem with the accurate technology.



SELLING ITS PRODUCTS OVER 80 COUNTRIES

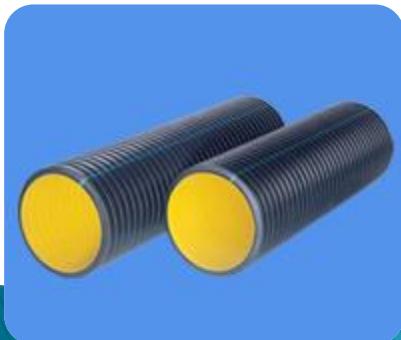


Sewage Discharge
Systems

HDPE 100 Potable
Network Systems

HDPE 80 Natural
Gas Systems

INFRASTRUCTURE PRODUCTS



Spiral Self
Systems



SEWAGE DISCHARGE SYSTEMS



Advantages

- Perfect leak proof
- Flexibility
- High durability
- Strength against abrasion
- Resistance to chemicals
- Different welding techniques
- Resistance to earthquakes
- Long service life
- Resistance to decaying
- Mobile production





SPIRAL SELF PIPES

Raw Material : HDPE 100

Production Color : Black

Production Range : 500 mm - 3000 mm

Pressure Range : SR2 - SR32

0,5 Bar - Gravitational Flow

Unit Lengths : 6 or 12 meters Bar (Customized)

Length may also be produced)

Production Standard : EN 13476 -1, DIN 1692

Certificates : TSE, Ghost



Advantages of Mobile Production

- ▶ Logistics Advantages
- ▶ Competative Unit Prices
- ▶ Dead Line
- ▶ Application Advantages

SAMPLE PROJECT:

1000 mm 6 km SR 16

1200 mm 6 km SR 16

1400 mm 6 km SR 16



LOGISTICS ADVANTAGES

MOBILE PRODUCTION

RAW MATERIAL TRANSPORT

TOTAL WEIGHT	1135104
TRUCK LOADING CAPACITY - kg	20000
TRUCK QUANTITY	56,7552
MACHINE TRANSPORT	15.000,00 \$
TRANSPORT COST PER TRUCK	2.500,00 \$
TOTAL	156.888,00 \$

PIPE IN PIPE CALCULATION

PIPE TRANSPORT

TOTAL WEIGHT	1135104
TRUCK LOADING CAPASITY - meter	12
TRUCK QUANTITY	263,5833333
TRANSPORT COST PER TRUCK	2.500,00 \$
TOTAL	658.958,33 \$



COMPETATIVE UNIT PRICES

MOBILE PRODUCTION
RAW MATERIAL TRANSPORT

TOTAL EXWORKS ÇORLU	2240760
TRANSPORT OF RAW MATERIAL	156.888,00 \$
TOTAL	2.397.648,00 \$

PIPE IN PIPE CALCULATION
PIPE TRANSPORT

TOTAL EXWORKS ÇORLU	2240760
TRANSPORT OF PIPES	658.958,33 \$
TOTAL	2.899.718,33 \$

DIFFERENCES \$ 502.070,33 \$

DIFFERENCES % 20,94



DEADLINE ADVANTAGES

- ▶ Mobile Production can be ready to ship in 1 week.
- ▶ The Production will be completed on Application Side so the goods can be applied just in time.
- ▶ The Pipe length does not have to be standard 6 meter.



APPLICATION ADVANTAGES

- ▶ Electrofusion makes more strong welding on applied points so any leakage is possible on welding points.
- ▶ The pipe lenght can be produced more then 6 meter so the quantity of welding points will be reduced.
- ▶ The application time will be reduced because of long pipe lenght.



MOBILE PRODUCTION CONDITIONS

► EXPACTATIONS FROM LOCAL PARTNER

500 m'2 closed area

630 kWA trafo and electricity connections

Water connections

Customs clearance for raw material
(definitive import)

Customs clearance for machine
(temporary import)

Hotel, flight cost for 4 production
supervisors

Local workers which will be worked
on production side

Local Trade Rules and Office Taxes



MOBILE PRODUCTION CONDITIONS

▶ RESPONSIBILITIES

Management of Production Area

The start up the Production

Transport of Raw Material and
Machines

Technical Approval of Produced Pipe

Internal Management of Stock



Production Area Sinop – Erfelek



08/24/2009 18:14



Production Area Sinop – Erfelek



09/07/2009 16:24



Production Area Sinop – Erfelek



The pipes are joined by means of a specially developed EF welding system. This special joining method guarantees a reliable weld and 100% tightness.



MOBILE PRODUCTION TECHNOLOGY



MOBILE PRODUCTION TECHNOLOGY



MOBILE PRODUCTION TECHNOLOGY



18.12.2012 14:55

Some of Successful Projects Achieved by Dizayn Group

ERFELEK, SINOP MOBILE PRODUCTION PROJECT

The image displays two screenshots of mobile production project dashboards. The top screenshot is for the 'Sinop Erfelek HEPP Project' (Sinop Erfelek Hes Projesi) in Turkey. It shows a large stack of black HDPE corrugated spiral pipes on a construction site with a red truck and workers. Below the image, project details are listed: Project Owner: Birim Hydroelectric (Birim Hidroelektrik), Product: HDPE CORRUGATED SPIRAL PIPE (SR6), Diameters: Ø1600 mm, Total Quantity: 7.400 M, Year: 2009. The bottom screenshot is for the 'Çanakkale Biga Sewage System' (Çanakkale Biga Kanalizasyon Projesi) in Turkey. It shows a long black HDPE corrugated spiral pipe being laid on a slope. Below the image, project details are listed: Project Owner: Gintek Construction (Gintek İnşaat), Product: HDPE CORRUGATED SPIRAL PIPE (SR6), Diameters: Ø1000 mm, Total Quantity: 1.885 M, Year: 2009.

Thanks to this newly-developed technology, the manufacturing yard is erected on the territory of the power plant and the resulting on-site manufacturing process clears the transport costs. Under this technology, when water supply lines are designed with plastic pipes, competitive costs can be produced compared



Production Area Sinop – Erfelek



Stock in Mobile Production



Application Erfelek – Sinop



Application Erfelek – Sinop



Application Erfelek – Sinop



Application Erfelek – Sinop



Some of Successful Projects Achieved by

RIZE CAYELI UZUNDERE HEPP PROJECT

Rize Cayeli Uzundere HEPP Project
Rize Cayeli Uzundere Hes Projesi

Turkey
Türkiye

Project Owner: Black Sea Electricity Generation Co. Inc.
Karaçan Elektrik Üretim A.Ş.

Product:	HDPE CORRUGATED SPIRAL PIPE HDPE SPİRAL SARIŞLU BORU	Diameters:	Ø1200 - Ø2000 mm Diameter: Ø1200 - Ø2000 mm	Total Quantity:	1,300 M Total Quantity: 1,300 M	Year:	2009 Year: 2009
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Some of Successful Projects Achieved

EUROPEAN FREE-ZONE NETWORK PROJECT

European Freezone Network Project Corlu
Avrupa Serbest Bölgesi Aşırı Yer Projeleri Corlu

Turke
Turkey



Project Owner: Sahnler Holding
Project Name: Sahnler Holding

Product	HOPE CORRUGATED PIPE AND FITTINGS HOPE KORKE BORUVU VE EK PARÇALARI	Diameters:	Ø200 - Ø2200 mm Cm	Total Quantity:	6.000 M Topuk Metre	Year:	1999
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COMPARATION BETWEEN OTHER RAW MATERIALS

FEATURES	PIPE TYPE	DIZAYN PE	PVC	STEEL	DUCTILE FONT	CONCRETE	GRP	ASBESTOS	EXPLANATION
Production range (mm)	Ø20 - Ø3600	Ø20 - Ø630	Ø15 - Ø4000	Ø50 - Ø2000	Ø200 - Ø3200	Ø20 - Ø1600	Ø... - Ø1600		
Guaranteed service life (year)	50	0-20	3-15	5-25	0-30	0-50	0-30		For the pipes other than PE 100 pipes, the service life depends on many parameters like quality of the raw material of the pipe, bedding in the trench, etc.
Feature of breaking	Very Durable	Weak	Durable	Durable	Very Weak	Partially Durable	Very Weak		
Max. Production length	500	6	12	6	4	6-12	4		
Standard production length (m)	12	6	6	6	2	6	2		
Strength against corrosion and abrasion	Very Durable	Partially Durable	Very Weak	Very Weak	Partially Durable	Durable	Weak		This evaluation depends on the nature and type of the chemical like SO2, NaCl, Chlorine
The easiness of producing fittings	Very easy	Very easy	Difficult	Very Difficult	Very Difficult	Very Difficult	Very Difficult		
The easiness of the installation (The easiest: 100 The most difficult: 0)	100	50	25	40	15	45	5		
Superiority from the side of hygiene	Perfect	Doubtful	Doubtful	Doubtful	Doubtful	Good	Troubles		
Surface roughness coefficient (C)	149	149	120	130	100	145	130		Depend on the quality of the production and raw material.
Variety of fittings and their price	Perfect-Cheap	Perfect-Cheap	Limited-expensive	Limited-expensive	Limited-expensive	Limited-expensive	Limited-expensive		
Strength against chemicals	Perfect	Doubtful	Troubles	Doubtful	Doubtful	Good	Doubtful		
Surface elasticity coefficient (C)	377	33	0,5	1	4,4	>3	-0,5		
Ability for passifying the ram impact	Perfect	Troubles	Troubles	Troubles	Troubles	Troubles	Troubles		
The easiness of making pressure test at site	Perfect	Troubles	Troubles	Troubles	Troubles	Troubles	Troubles		Since the connection of the pipes other than steel and PE pipes is done using o-ring, it is very difficult to have perfect leak proof. It is necessary to take additional precautions for absolute leak proof.
Need of bends at turn points	Very little	Very much	Very much	Very much	Very much	Very much	Very much		For PE 100 pipes it is possible to make even full round shape with a diameter 25 times of the pipe outer diameter.
Max. instant test pressure (for PN 10)	>28 bar	>16 bar	>40 bar	>40bar	>13bar	>18 bar	>13 bar		
The safety of 1 connection points (max.:100-min.:0)	100	0-50	0-80	0-80	0-30	0-70	0-40		The connections with o-ring always create problems. For PE pipes, since the connection is done by welding, the molecular fusion makes.
Ability for passifying the ram impact	Perfect	Doubtful	Troubles	Doubtful	Troubles	Doubtful	Troubles		
Needed trench width (as %pipe diameter)	approx.%5-10 wider than the	approx.% 100 wider than the	approx.%200 wider than the	approx.% 110 wider than the	approx.%200 wider than the	approx.%200 wider than the	approx.%200 wider than the		These figures are for pipes with average 400 mm diameter.

Thank you