

FRIAFIT®

2851/3e · ?? · I. 08 · ??? Update 30.01.08



FRIAFIT®



Always the right decision:

**FRIAFIT®**  
**sewage system**

Joining Technology for a long useful life

FRIATEC Aktiengesellschaft · Technical Plastics Division  
P.O.B. 71 02 61 · D-68222 Mannheim  
Telephone +49 621 486-0 · Telefax +49 621 479196  
E-Mail: info-friafit@friatec.de · Internet: www.friatec.com



## REHABILITATION SCENARIO:

# Sewage drainage



**About 20% of the public waste and mixed water drainage network needs to be rehabilitated\*. The main reason for this is the use of pipe materials which are not consistently able to meet such impacts as e.g. ground movement, peak loads or in-growing roots. Large amounts of contaminated sewage may therefore reach the soil in an untreated state, and inversely ground water may enter the waste water pipe systems. Consequences of such a development are a serious impact on ground water as well as increasing costs for the operators of the sewage treatment plants.**

**You can put an end to this.**

### **A material which convinces completely: HDPE**

HDPE has been tried and tested for more than 40 years in both gas and water supply. It convinces through a number of advantages which allow a safer and more efficient operation of sewage drainage systems – now and in future:

- Useful life of over 100 years forecast according to DIN 8074
- Excellent resistance to aggressive media
- High abrasion resistance to debris movement and high pressure rinsing
- Low surface roughness prevents deposits and encrustations
- The elasticity of the pipe system allows absorption of peak loads and ground movement
- Material rupture is excluded
- Ideal handling on construction sites due to low weight
- Excellent fusibility



### **The jointing technology which is really convincing: electrofusion**

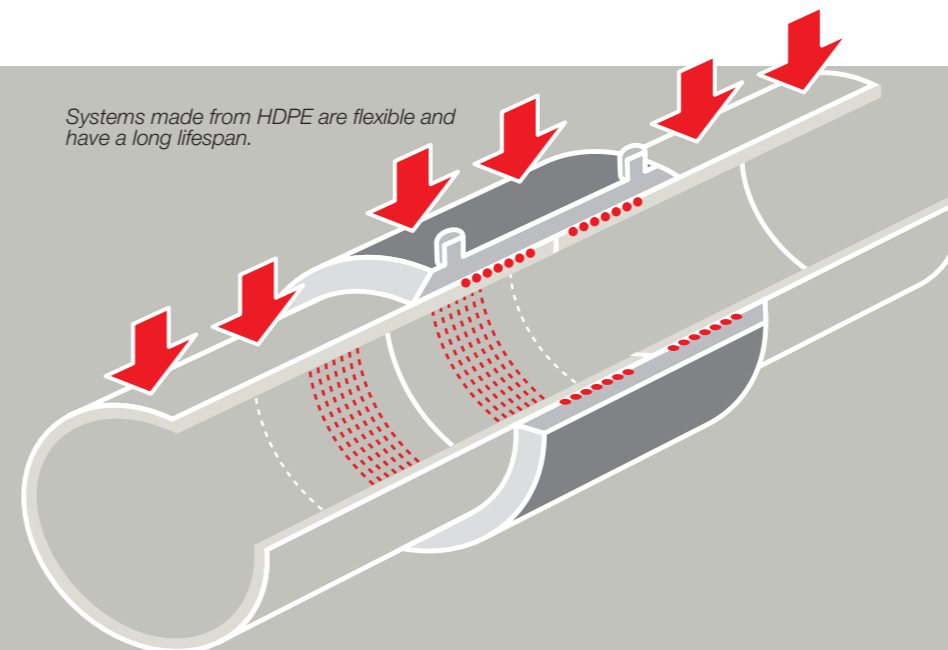
The superior electrofusion technology joins HDPE pipes permanently and longitudinally strong: pipe and FRIAFIT coupler make one inseparable unit. This way water is prevented from entering or leaking out, and the in-growing of roots is prevented. A HDPE pipe systems using FRIAFIT fittings is the right decision for efficient and safe operation and against an early need for rehabilitation.

\*Source: German Association for Water Economy, Sewage and Waste, 2004

## **FRIATEC: ALWAYS THE RIGHT DECISION.**

FRIATEC, as specialist for jointing technology in pipe systems and technological leader in electrofusion, provides the certainty that the right decision is made. A decision contributing to the optimisation of safety, economy and efficiency of your processes.

*Systems made from HDPE are flexible and have a long lifespan.*



**LONG LIFESPAN, SAFE, ECONOMICAL:**



# FRIAFIT® Jointing Technology

**By choosing FRIAFIT you are creating the perfect conditions for an efficient installation and economic operation of your drainage. The superior advantages of FRIAFIT fittings make sure of that:**

## Exposed heating coil

Only FRIAFIT boasts exposed heating coils without a HDPE layer getting in the way. These provide:

- Optimum heat transfer during fusion
- A good build-up of molten pressure
- A homogenous connection of the materials – pipe and fitting become an inseparable unit

## Long fusion zone

FRIAFIT fittings boast extra long fusion zones. These provide:

- Maximum processing safety and reliability
- Permanently tight connections due to expansion of force transmitting area

## Great insertion depth

FRIAFIT fittings boast great insertion depth. This allows for:

- Ease of pipe guidance
- Optimum chambering of the molten mass resulting in constant pressure during fusion.

*FRIAFIT sewage system:  
For every request the right solution.*



## Areas of application

The FRIAFIT sewage system may be fused without any limitations with pipes made from HDPE according to DIN 8074/8075, EN 12666 and DIN 19537 of ranges SDR 33, SDR 26, SDR 17.6 and SDR 17. Pipes made of PE 63, PE 80 and PE 100 with a melt flow ratio MFR190/5 between 0.2 - 1.7 g/10 min. can be fused. The FRIAFIT® sewage system may be processed with ambient temperatures ranging from -10 °C to +45 °C.

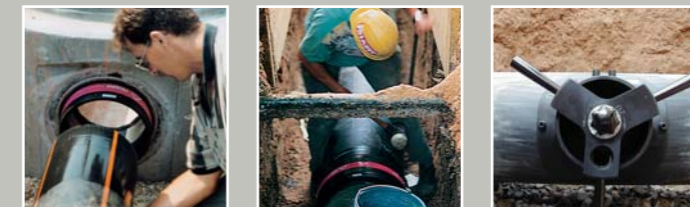
## Preparation

HDPE pipes react in contact with ambient air creating an oxide layer. This oxide layer must be removed from the surface to be covered as part of the preparation for the fusion process in order to achieve good results. FRIATEC provides perfectly designed tools in its FRIATOOLS range.



## Fusion

The fusion process for connecting HDPE pipes with the FRIAFIT fittings is carried out using FRIAMAT fusion units from the FRIATOOLS range. These are controlled automatically by the barcode attached to the FRIAFIT fittings in regards to energy required and duration of the fusion process. In addition FRIAFIT electrofusion fittings have an automatic temperature compensation system which, together with FRIAMAT fusion units, prevents the ambient temperature having a negative effect on the fusion result.



## UNIVERSAL:

FRIATEC with its assembly friendly complete range of fittings for pipes from d 110 to d 560 offers you a suitable jointing technique to meet all requirements.

**SIMPLE HANDLING, PERFECT JOINTS:**

# FRIAFIT® moulded parts



## FRIAFIT AM couplers

FRIAFIT couplers provide a lasting connection for pipe systems made from HDPE which is tight and longitudinally strong. Due to the superior electrofusion technology pipe and coupler become an inseparable unit giving in-growing roots no chance at all.

- Designed as slide-over coupler without centre stop for equally bottom levelled pipe connections without coupler gap
- External reinforcement on large couplers for stability and optimum molten pressure during fusion
- Low weight even with larger dimensions

## The FRIAFIT ASA-TL top loading sewage saddle

The FRIAFIT sewage saddle serves for the connection of sewage service pipes to HDPE waste water drains in new installations, rehabilitation or subsequent integration. The sewage saddle is a compact construction part made from HDPE, consisting of a weld-on saddle with an integrated



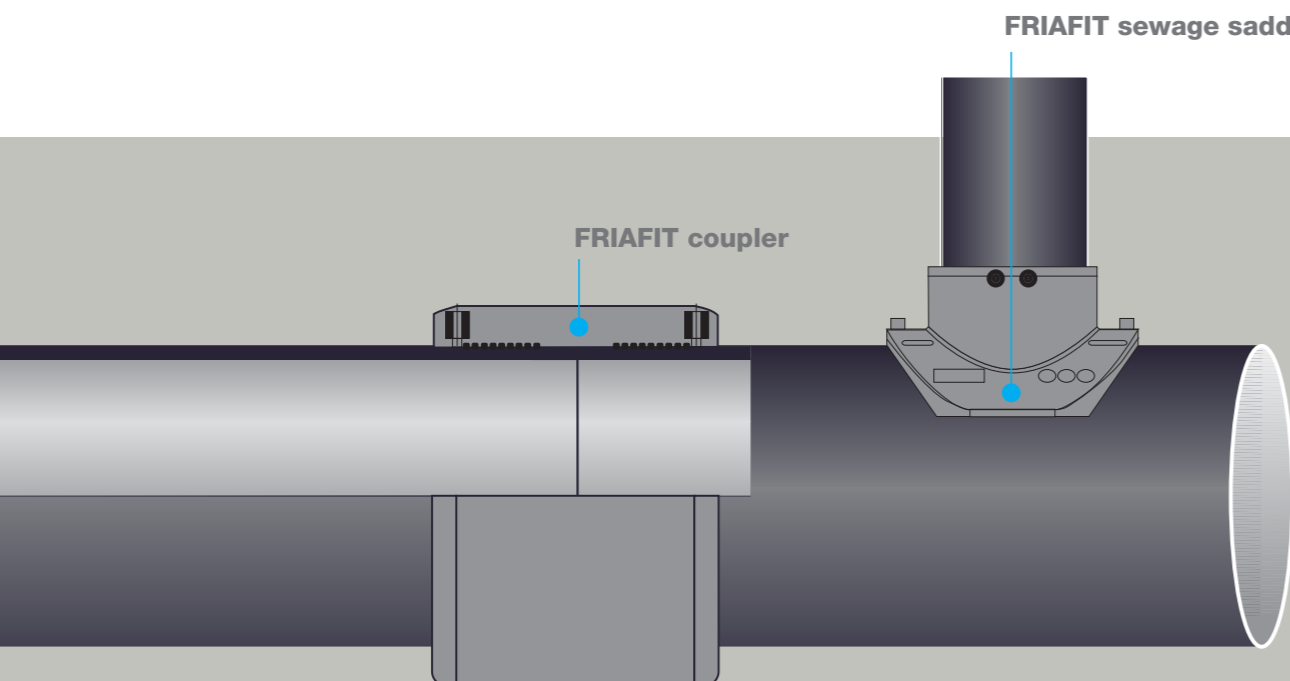
## FRIAFIT transition fittings (UKG and USTZ)

FRIAFIT transition fittings serve continuous material transition from HDPE pipes SDR 33 to SDR 17 to PVC/PP pipes or stoneware pipes. The spigot end can be fused to FRIAFIT coupler or to the outlet of the FRIAFIT sewage saddle.

- Continuous material transition in application with HDPE pipe SDR 33 to SDR 17.
- On the Plug-in side with integrated SBR-sealing-lip for PVC/PP pipe or stoneware pipe.

fusion coupler in the outlet. Assembly is simple: the saddle is fixed to the pipe by means of the FWFIT clamping and tapping unit from the FRIATOOL range and tapped after the fusion process.

- Little space requirement in pipe trench
- Separating of pipe not necessary
- Direct integration of connecting pipe – without misalignment or flow obstacles.



## FOR THE USER:

**FRIAFIT couplers, sewage saddles and adapters are perfectly in tune**

**with one another and allow simple and safe handling in all situations.**

## THE PERFECT DOUBLE:

# FRIAFIT® Inspection chamber connection

FRIAFIT inspection chamber connections consist of two components: the sewage inspection chamber adapter and the sewage insert sleeve. Adjusted perfectly to the different properties of concrete and HDPE, they provide optimum connection up to d 560 for a flexible joint to the inspection chamber according to the standards DIN V 4034-1 and ATV-DVWK-A 157.

### FRIAFIT ASF sewage inspection chamber adapter

The FRIAFIT sewage inspection chamber adapter has usually been anchored tightly in the inspection chamber by the concrete factory. Anchoring girders with T profiles provide this. Only on the construction site the sewage insert sleeve is inserted.

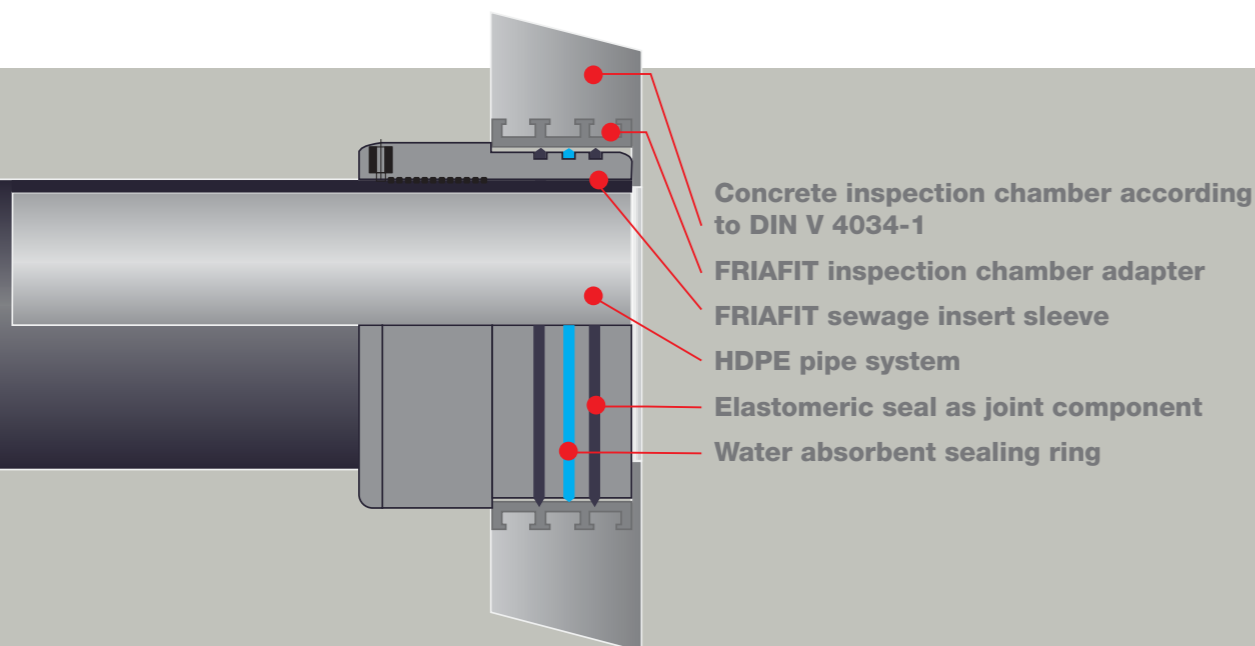
- Width of component and HDPE/concrete connection correspond to DIN V 4034-1
- Elastic centre piece to compensate stress caused by setting of inspection chamber as well as thermal expansion
- Stable internal diameter due to large wall thickness

- Also available longer length (**ASFL**) for subsequent integration in bricks chamber

### The AEM FRIAFIT sewage insert sleeve

The FRIAFIT sewage insert sleeve provides a flexible connection due to its two elastomeric sealing rings as well as water absorbent sealing ring. Connection with HDPE pipe is achieved by electrofusion with FRIAFIT couplers.

- The inspection chamber remains free from axial pipe stress due to the push-fit joint between chamber adapter and insert sleeve
- Double elastomeric sealing allows flexible joint to chamber adapter according to DIN V 4034-1 and ATV-DVWK-A 157
- Water absorbent sealing ring provides additional safety



## PERFECT:

The FRIAFIT inspection chamber adapter and the insert sleeve make up the perfect double to join HDPE pipes with inspection chambers up to d 560.

ALWAYS THE RIGHT DECISION:

# Joints for all



Always on site when you need us: your FRIATEC advisory team.



Demonstrating a scraper tool right at the construction site.



Practical based construction site training by your FRIATEC adviser.

## Perfect advice leads to the right decisions

Your competent FRIATEC advisers have excellent practical experience. No set of circumstances will be a challenge to them. They will analyse your requirements in co-operation with your staff and create solutions tailor-made to your needs giving you the certainty that you are always making the right decision, both in terms of technology and economy.

## Perfect service leads to safe operation

Perfect service also means having enough time for the customer. Being available to the customer is as important to us as the specialist qualifications of our advisory and service team. You too can benefit from our range of services ranging from training, construction site consultations, and sample installations to a comprehensive equipment hire service.

# events

We focus on jointing technology for pipe systems.

This gives us the expertise to come up with a highly

specialised solution for any requirements in this

area.

## ■ FRIATOOLS

The FRIATOOLS range comprises the fully automatic FRIAMAT fusion units as well as mechanical pipe scraper tools, clamping and tapping devices, which are required for the installation of FRIAFIT and FRIALEN.

## ■ FRIALEN

Couplers, moulded parts and valves for electrofusion of HDPE pipes in gas and water supply.

## ■ FRIAGRIP

Couplings and repair technology for the repair of various pipe materials.

## ■ STRAUB

Axial restraint and axially flexible pipe joints for all pipe materials.



Would you like to know more about our products and services?

More detailed information is available in our separate product leaflets

or online at

[www.friatec.com](http://www.friatec.com)