Product Data Booklet FiberTec Ultimate HDD Coating System

FiberTec Ultimate HDD Coating System bringing unparalleled coating toughness to HDD coating

Universal Corrosion Coatings Pty Ltd
www.unicc.com.au – enquiries@unicc.com.au - PH; + 61 3 9310 3515

FiberTec
Ultimate HDD Coating

UCC

The DNA of Universal Corrosion Coatings (UCC)

UCC provide solutions to corrosion and material degradation issues across the Oil and Gas, Water, Energy, Marine, Mineral Processing and Civil Infrastructure sectors.
UCC are uniquely innovative when it comes to solving corrosion and material degradation problems associated with infrastructure assets.
This innovation is borne out of specific experience in this field and a passion for delivering unsurpassed service to our clients.

UCC differentiate themselves in **4 key areas**

Experience:

We inherently understand the issues faced by asset managers and our experience permits us to deliver optimum solutions to these issues.
Nothing substitutes for real experience!

Innovative Product and Service Solutions:

Our Product & Service solutions are borne out of our passion for innovation and our experience. They are best in class providing peace of mind for asset owners who select our Product & or Service Solutions.

Applicator Training and Accreditation

Experience has shown that innovating the best product solutions is only part of the answer, to round off the best product solutions requires applicators who are specifically trained in the application of the product solution. At UCC we provide project specific Applicator Training and Accreditation for all of our Product Solutions, to ensure that the installed product provides the long term performance envisaged and demanded by our clients.

Commitment To Excellence

We are passionate about what we do. We want every client to experience **Total Satisfaction** in every transaction with UCC.
It is this commitment which has enabled UCC to grow consistently and it is a commitment which will never waiver.

Our Pipeline Product Solutions

Canusa-CPS, Sleeve & High Build Epoxy Coatings

Our pipeline solutions are headlined by the **Canusa-CPS** range of heat shrinkable and high build epoxy coating systems developed over many decades by the Shawcor Group in Canada.
Each of the Canusa-CPS products has been tailored to match the physical properties of the mainline factory coating on your pipeline.
Coating integrity and compatibility is assured for Field Joint Coating, Hot Induction Bend Coating, Directional Crossings.

Butylen Self Amalgamating Tape Coating Systems

Butylen Self Amalgamating Tape Coating Systems were invented by DEKOTEC, Gmbh, Leverkusen, Germany in the early 1970,s
Their invention & innovation revolutionised tape applied coating systems.
For the first time ever it was possible to achieve a seamless and fully fused pipeline coating utilising tape applied coating.
The track record of Butylen Self Amalgamating Tape Systems in Australasia is unsurpassed and unparalleled in delivering proven field performance for field joint coating and in field pipeline coating coating remediation.

UCC Petrolatum Tape Coating System

Petrolatum products have proven their value over some **90 years!**
In a world where the term ***surface tolerant*** is thrown with reckless abandon for any number of coatings, the proven performance of Petrolatum Coating Systems when applied to poorly prepared substrates is indisputable
The ability of Petrolatum Coating Systems to mould and conform the most irregular of profiles makes them the only practical, proven choice for field coating of valves, flanges and all other irregular profile pipeline fittings

Fibretec Ultimate HDD Coating System

HDD coating is the most arduous coating application that is encountered in the pipeline industry.
The lap shear stresses and gouge stresses imposed upon the coating have the capacity to strip the coating from the pipe substrate.
Naturally enough it requires one tough coating to deal with an HDD pull, Fibretec Ultimate HDD Coating is established as the premier global HDD Coating.
The combined advantages of being able to be applied in the field and curing to ***'rock hard'*** when exposed to UV light make Fibertec Ultimate HDD Coating the 1st choice coating for an HDD pull.

1. Introduction

This information is merely intended to provide assistance on the basis of the knowledge accrued up to the date mentioned below.

The purpose of the FiberTec UPPS Application Procedure is to provide the best possible description of the way in which FiberTec Products have to be processed on steel or PE coated pipeline sections.

Applications not in compliance with this Application Procedure will invalidate the quality on the FiberTec Ultimate Pipe Protection System for HDD Pipelines.

1.1. The FiberTec Ultimate Pipe Protection System for HDD Pipelines

The FiberTec UPPS mechanical protection system for HDD Pipelines consists of:

- FiberTec on roll (10m x 1.0m x 1.6/1.8mm) packed in a special box
- FiberTec Transparent wrapping tape (10 cm x 66m)

The FiberTec UPPS system will be applied by hand on the surface of the existing pipe.

The first meters of the pipe in the direction of the drilling (head of the pipe) will be protected by an extra layer of FiberTec, depending on the pipe diameter and the total pipe length.

All material overlaps have a minimal overlap of 10 cm in both directions, longitudinally and circumferentially.

The longitudinal overlaps will vary between 1 and 3 o'clock to prevent 4 layers of uncured material on one spot. The overlaps need to be positioned towards the sun.

2. Surface preparation

A surface preparation for the application of the FiberTec UPPS system is required.
The surface needs to be clean and free of any loose materials, such as sand, dust, grease, oil or any other material that may effect the bonding or curing of the FiberTec UPPS.

A Holiday test has to be carried out prior to the application of the FiberTec UPPS. If Holidays are found these should be repaired in accordance with client specification.

2.1 Sharp edges

If there is a sharp edge in the PE/PP coating of **less** than **1.0 mm**, FiberTec UPPS will surround this edge and give excellent mechanical protection to the surface.

If there is a sharp edge in the PE/PP coating of **more** than **1.0 mm** this might penetrate the FiberTec UPPS if a lot of pressure is used during the application of the material in uncured condition.

To guarantee the performance of the FiberTec UPPS system for HDD Pipelines, sharp edges higher than 1.0 mm have to be grinded.

2.2 UV-, sun-, or daylight

During the application of the FiberTec UPPS there should be no impact of UV-light, because the system will start to cure immediately. Also indirect UV-radiation may effect the curing process.

To prevent the material from curing before the application, it should be pre-cut On-Site in a container or tent facility. In order to avoid curing during transportation to the pipe, the black foil from the original packaging can be used as a UV-barrier.

2.3 Relative humidity

During the application of the FiberTec UPPS the relative humidity is important.
FiberTec UPPS can be applied in a humid atmosphere that does not reach the dew point and creates no condensation on the pipe surface.

In order to create optimal adhesion and to prevent disbonding before curing, the surface has to be dry during the application.

2.4 Surface temperature

The surface temperature of the pipe prior to the application of the FiberTec UPPS should be at least 10 Deg C above dewpoint and no more than 75 ºC (167 ºF).

The temperature of the FiberTec UPPS material may not exceed 40 ºC (104 ºF) during application.

2.5 Storage and transportation

The storage and transportation of the material should be horizontal and below 25 ºC (77 ºF) at all times, and the material should be kept out of UV-light at all times.

2.6 Safety

All safety method statements and Material Safety Data Sheets of the used materials have to be available for the supervisor on Site.
All specifications regarding safety have to be met before starting the application.

3. Application of the FiberTec Ultimate Pipe Protection System for HDD Pipelines

DURING APPLICATION THE INTEGRITY OF THE SURFACE PREPARATION HAS TO BE TAKEN INTO ACCOUNT CONSTANTLY

The exact location of the pipeline section where the FiberTec UPPS is applied has to be noted on the Application Checklist.

A proper accessibility of the pipeline from all directions should be created.

The piece of pipeline on which the FiberTec UPPS is applied should be protected from contact with water from the surrounding environment.

Prior to the start of the application of the FiberTec UPPS a supervisor should check the surface preparation and sign the application Checklist.

At the supports the FiberTec UPPS will be applied after the pipe sections on both sides of the supports are protected with FiberTec UPPS.

3.1 Preparation for the application of the FiberTec UPPS

The FiberTec UPPS material is supplied on rolls and has to be cut to the right size. This required size is calculated by adding a minimum of 10 cm (≤ 16” pipe) or 15 cm (> 16” pipe) for the overlap to the exact circumference of the pipe.

3.2 Application of the FiberTec UPPS System

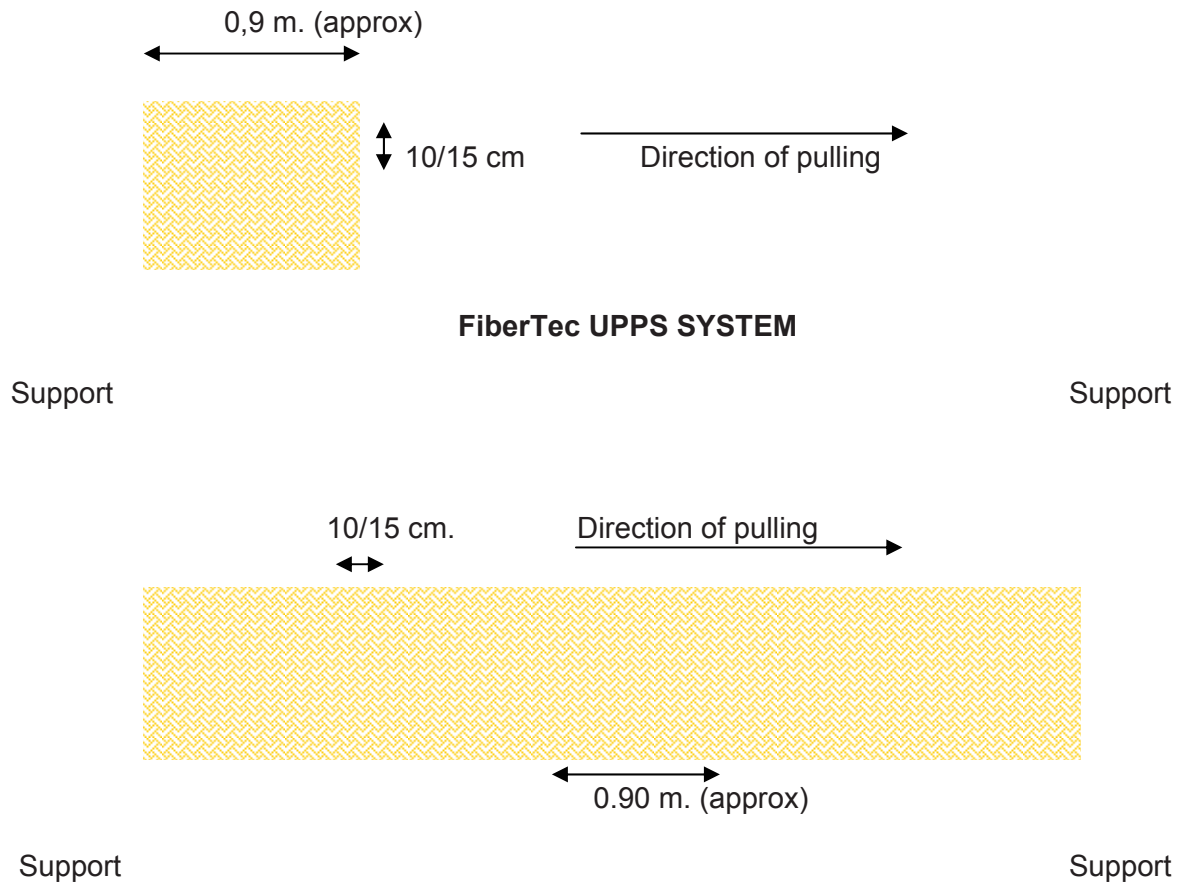
NOTE ! The outer surface of the roll is the outer surface of the material. The inner surface of the roll (yellow/blue foil) is the side that is going to be applied to the pipe.

The standard application is by a “cigarette wrap”. The application starts between 1 and 3 o’clock on the pipe and continues underneath the pipe, stripping the bottom film (yellow/blue) as the application progresses. The top-foil (clear) will not be removed before curing, except at the areas of longitudinal/horizontal overlap. This overlap points downwards. Hand pressure is used to consolidate the material at the overlap.

The FiberTec UPPS should be applied **with little tension** to the surface and hand-rubbing from the middle to the sides, so it follows its exact contour. The tension and rubbing minimizes the air encapsulation between the FiberTec UPPS and the pipe surface.

Finally, the complete FiberTec UPPS sleeve is taped with tension by using transparent tape, directly after application.

The top-foil and transparent tape should not to be removed, as they are permeable for UV-rays. This way the material is protected during the curing process for water, rain showers etc.

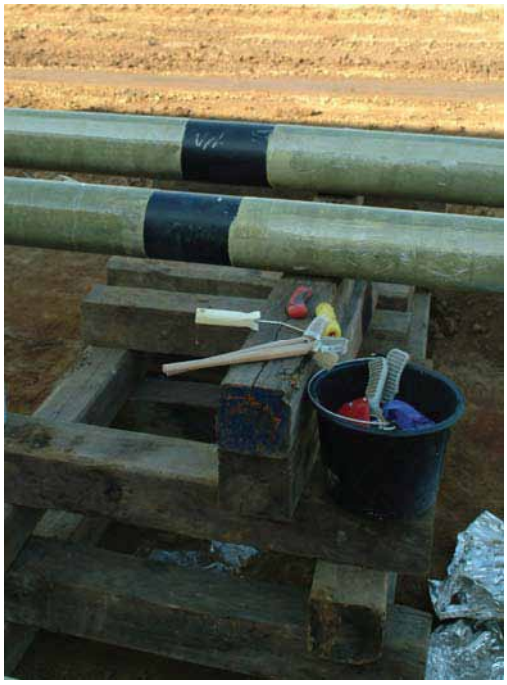


NOTE ! Start at the end of the pipe section (away from the head) so you work towards the head of the pipe. This is to prevent the edges of the circumferential overlap joints going against the pulling direction.
Stagger the longitudinal overlaps by switching the layers between 1 and 3 o'clock.
A Certified Supervisor has to visually check the surface to ensure the 10/15 cm overlaps, the curing of the complete system and the amount of air inclusions. This is to be noted on the Application Checklist.

3.3 Support sections

The pipe has to be supported by rollers/wheels or wooden blocks. Areas underneath the supports will have to be covered afterwards. First, the FiberTec UPPS should be applied on both sides of the support, preferably with a distance of 70 cm.

The area underneath the support will be protected afterwards when moving the support, but not before the existing FiberTec UPPS has been fully cured.



3.4 Holiday testing

After the FiberTec UPPS has been fully cured, it is highly recommended that before the pulling of the pipe a Holiday test of 20 kV is executed. The test should take place in the presence of a Certified Supervisor and/or a representative of the client.

Holidays should be repaired in accordance to the specifications of the client. The FiberTec UPPS can be repaired by means of patching a small piece of FiberTec UPPS material. Fast curing of the patch can be supported by artificial UV-light.

3.5 Inspection and release of the pipeline

When the application of the FiberTec UPPS is completed and approved by the Certified Supervisor and/or the representative of the client, it is recommended to encode that pipeline section. Each individual encode number should be noted on the corresponding Application Checklist.