

# ATIS CABLESKIN®

LONG TERM CORROSION PROTECTION SYSTEM  
FOR CABLES

SHORT DESCRIPTION  
REFERENCE LIST

## **Approval**

- ETA-13/0171 – European and Z-30.11-41 – German technical approval available

## **Resistance to environment**

- Highest resistance according to C5-M (seawater) C5-I (industry)

## **UV-resistance of the 2,6 mm wrap**

- Proven for lifetime open air of more than 60 years

## **Lifetime**

- More than 60 years, due to 8 corrosion protection barriers totally

## **Logitudinal extension at heat**

- „0“ due to ductile overlapping system, adhesion and interlocking

## **Sub-surface migration of water in event of external damage**

- Practically „0“ under intact system due to interlocking with cable surface

## Resistance to movement

- 500 % ultimate elongation

## Adaptability to surface

- Butyl rubber creeps into roughness of substrate surface and thus avoids air inclusions

## Surface pretreatment

- No need, on new and old systems applicable

## Connection from cables to structure

- Ductility and characteristics of the wrap ensures full tightness over 60 years

## Temperature range

- Continuous 24/7: -60 °C to +50 °C, temporary +/-30 K

## Application

- With **ATIS cable robot** and by hand, immediately after application ready to use

## LIFETIME 60+ YEARS

### **No malfunction of butyl rubber protection since 1970 recorded**

- worldwide approx. 107.000.000 m<sup>2</sup> wrapped underground, ungerwater and open air

### **Tested according to relevant standards for conventional systems**

- All relevant tests were passed without any objection and sign for failure

### **ATIS Cableskin® sample double tested (DIN EN ISO 11341)**

- 2x successfully passed artificial weathering and exposure to artificial radiation

### **Base layer without top layer tested according to DIN EN ISO 11341**

- Base layer alone, without additional protection of the top layer, passed the test too

### **8 independent protective barriers of 2,6 mm total thickness**

- One barrier must be fully damaged by weathering before the next is exposed

YEARS



Deutsches Institut für Bautechnik

## Allgemeine bauaufsichtliche Zulassung

**Zulassungsbüro für Korrosionsschutz und Bauteile**  
**Bauaufsichtliches Prüfbüro**

Elektronische Bauteile sind zulassungsgemäß genehmigt, wenn die allgemeinen Bauteile-Minimalanforderungen (ETA-1, ETA-2, ETA-3) und die folgenden Mindestanforderungen erfüllt sind:

**Datum:** 23.03.2016  
**Ursprungsnummer:** 1306-1-3011-0175

**Zulassungsgenossen:** **Zulassungsdauer:**  
**2-06-11-41** vom **29. März 2016**

**Antragsteller:** **Alpine Technik und Ingenieurservice GmbH**  
 Pfaffenstraße 80  
 04179 Leipzig

**Zulassungsgegenstand:**  
**Korrosionsschutzverfahren ATIS CableSkin® für tragende Stäbe**

Der oben genannte Zulassungsgegenstand wird hiermit allgemein bauaufsichtlich zugelassen.  
 Diese allgemeine bauaufsichtliche Zulassung umfasst sechs Seiten und vier Anlagen.  
 Der Gegenstand ist erstmals am 3. November 2010 allgemein bauaufsichtlich zugelassen worden.



18810 | Zulassungsbüro 04179 | 04179 Leipzig | Tel.: +49 341 3103-6 | Fax: +49 341 3103-10 | E-Mail: info@diibt.de | www.dibt.de



Deutsches Institut für Bautechnik

## European Technical Approval ETA-13/0171

**Deutsches Institut für Bautechnik**  
**Zulassungsbüro für Bauteile und Bauteile**  
**Abteilungsleiter Prüfbüro**

Elektronische Bauteile sind zulassungsgemäß genehmigt, wenn die allgemeinen Bauteile-Minimalanforderungen (ETA-1, ETA-2, ETA-3) und die folgenden Mindestanforderungen erfüllt sind:

**Datum:** 08. April 2016  
**Ursprungsnummer:** 1306-1-3011-0175



Wichtigster Schritt  
 Member of EFTA

**European Technical Approval**  
 original approval prepared by DIBt - Original version in German language

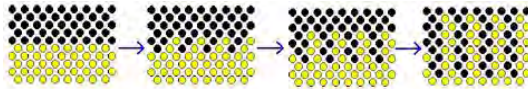
<p><b>Hinweisbezeichnung</b>                  Trade name</p> <p><b>Zulassungsinhaber</b>                  holder of approval</p> <p><b>Zulassungsgegenstand</b>                  subject type and use of construction product</p> <p><b>Geltungsdauer</b>                  validity</p> <p><b>Hersteller</b>                  Manufacturer (s)</p>	<p><b>Korrosionsschutzverfahren ATIS CableSkin</b>                  Corrosion protection system ATIS CableSkin</p> <p><b>Alpine Technik und Ingenieurservice GmbH</b>                  Pfaffenstraße 80                  04179 Leipzig                  DEUTSCHLAND</p> <p><b>Korrosionsschutzverfahren für tragende Stäbe</b>                  Corrosion protection system for load bearing cables</p> <p>8 April 2016                  8 April 2016</p> <p><b>Alpine Technik und Ingenieurservice GmbH</b></p>
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**Thema Zulassung** umfasst 10 Seiten einschließlich 4 Anlagen  
 This approval includes 10 pages including 4 annexes

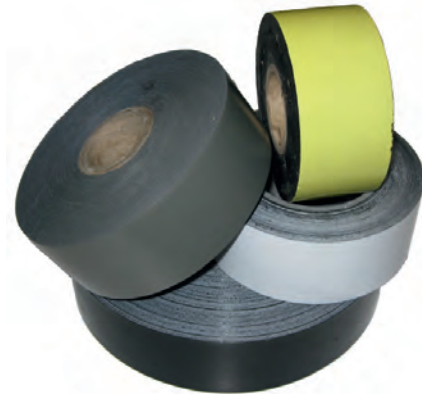


Europäische Organisation für Technische Zulassungen  
 European Organization for Technical Approvals

## COMPOSITION



Cold welding process by interdiffusion



Many colors available



Tape peeled off from cable surface after wrapping

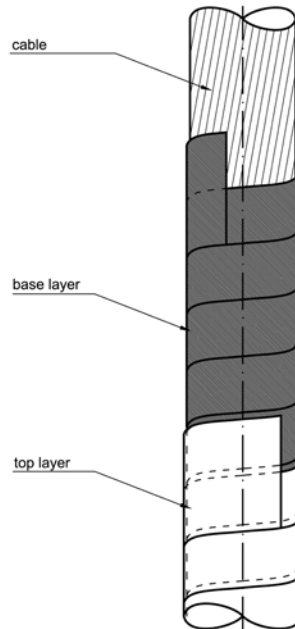
## WRAPPING

### **Base layer:**

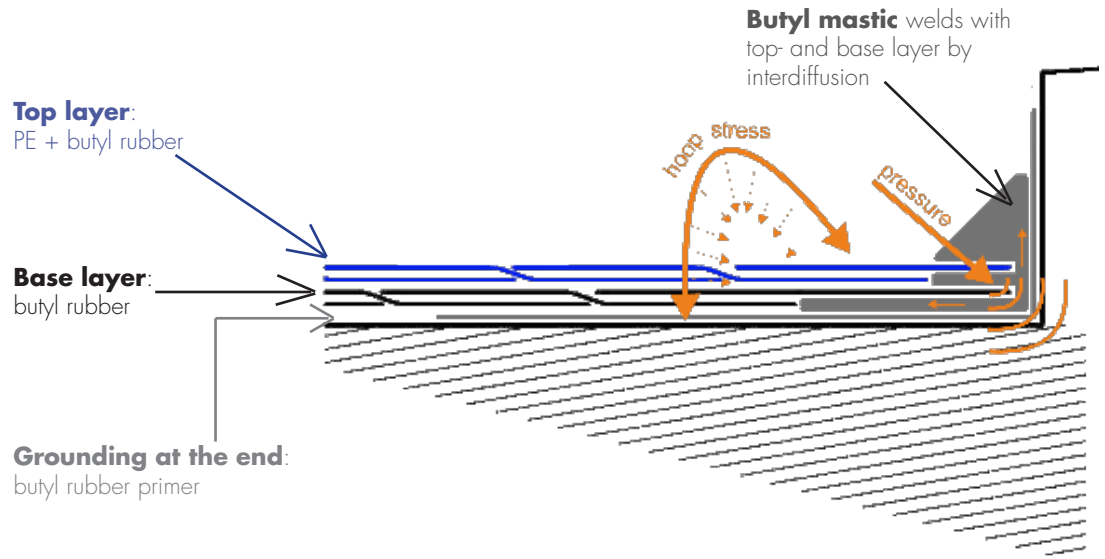
stabilized PE-carrier film, double-sided applied with butyl rubber

### **Top layer:**

exterior UV-stabilized PE-carrier film, colored, one-sided inside with butyl rubber



## CONNECTION TO STRUCTURE



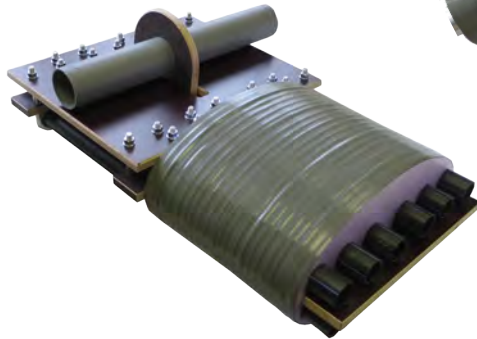


# ATIS CABLESKIN®



## SUSPENSION CABLES

### Customized solutions



Open cable bundle 600 by 450 mm



Twin cable  
150 mm diameter



Compacted cable bundle  
500 mm diameter

## THE SITUATION

**Corrosion in confined, poor ventilated and bad accessible areas**



## THE CHALLENGE

### **Surface preparation with conventional methods**

- Sand blasting: poor quality in confined areas
- Protection with paint: bad accessibility, poor quality in confined areas

### **Execution time with conventional methods**

- Long since sensitive to weather conditions

### **Access and housing with conventional methods**

- Complex and costly
- Additional wind loading on the structure

## THE SOLUTION

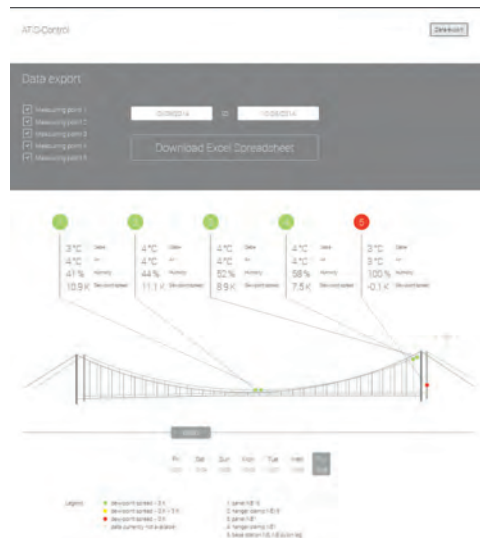
**Long term corrosion protection system ATIS Cableskin®**

- Safe and approved encasement with ATIS Cableskin®
- 60 years lifetime of the ATIS Cableskin® wrap
- Easy to inspect and maintain
- Combination with dehumidification option possible
- Easy to monitor
- Combination with monitoring system **ATIS control** possible

**ATIS Cableskin® + dehumidification = maximum protection**

## MONITORING

### ATIS control



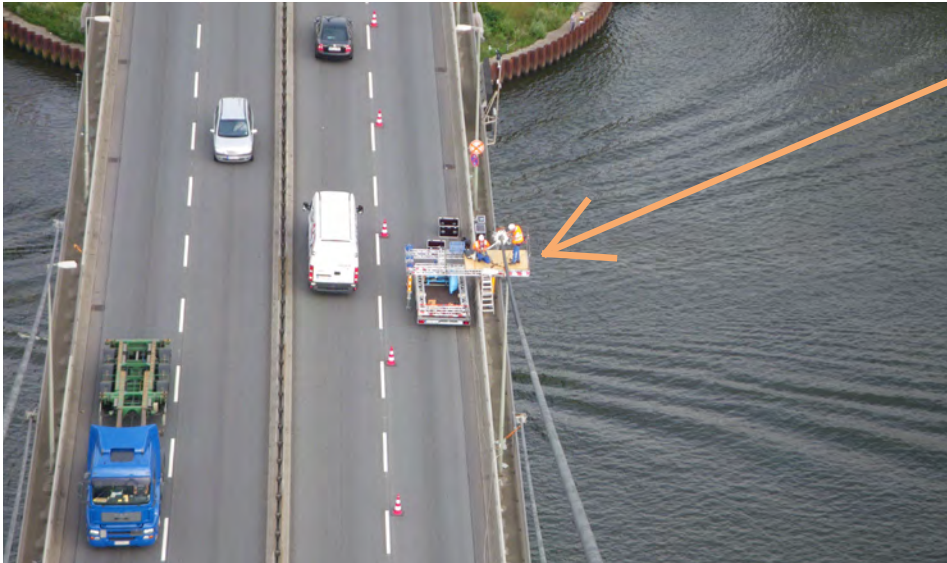
## MONITORING

**ATIS control**

- Permanent recording of ambient temperature, cable surface temperature and rel. humidity or other data such as amplitudes and tensions
- All values are available online, each of them time-period based and time based
- Data export in Excel-format for further processing and storage
- Cost reduction in maintenance due to early detection of critical conditions
- Enhancement of the buildings documentation

## APPLICATION

**Low impact on traffic**





### Work at night



### **Parallel work**



ATIS CABLESKIN®

## WRAPPING DEVICES

**ATIS cable robot**



### **Wind tower, Denmark**

Client: DYWIDAG-Systems International GmbH



## BUILDING

- **Year:** 2017
- **Type of building:** wind tower
- **Number of cables:** 3 PE-ducted stay cables
- **Cable surface:** PE
- **Total surface to protect:** 190 m<sup>2</sup>
- **Effective application time:** 3 days
- **Environmental conditions:** C5-M atmosphere, heavy seawater load
- **Preliminary documentation:** none

### **Fred Hartman Bridge, USA**

Client: Texas Department of Transportation/SCR



## BUILDING

- **Year:** 2015
- **Type of building:** cable stayed motorway bridge
- **Number of cables:** 192, parallel wired
- **Cable surface:** Tedlar wrapped, PE sheathed
- **Total surface to protect:** 12.500 m<sup>2</sup>
- **Effective application time:** 90 days
- **Environmental conditions:** normal, temporary industrial atmosphere
- **Preliminary documentation:** none
- **Other activities:** adjustment of the cable dampers, PE welding

## IMPRESSIONS

### **Passerelle des deux Rives, Germany/France**

Client: Town of Kehl, Town of Strasbourg





## BUILDING

- **Year:** 2008
- **Type of building:** footbridge
- **Number of cables:** 76 full locked
- **Cable surface:** GALFAN with filler partly outside
- **Total surface to protect:** 2.500 m<sup>2</sup>
- **Effective application time:** 32 days
- **Environmental conditions:** normal, temporary industrial atmosphere
- **Preliminary documentation:** yes, panorama image **ATIS Viewer**
- **Documentation after application:** yes, panorama image **ATIS Viewer**
- **Other activities:** pylon inspection

### Footbridge Sindelfingen, Germany

Client: Town of Sindelfingen



## BUILDING

- **Year:** 2014
- **Type of building:** footbridge
- **Number of cables:** 8 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 30 m<sup>2</sup>
- **Effective application time:** 4 days
- **Environmental conditions:** normal atmosphere
- **Preliminary documentation:** yes, magneto-inductive inspection
- **Other activities:** protection of the lower connections by **ATIS cable boot®**

### Ophus Bridge, Norway

Client: Consolvo, Statens Vegvesen



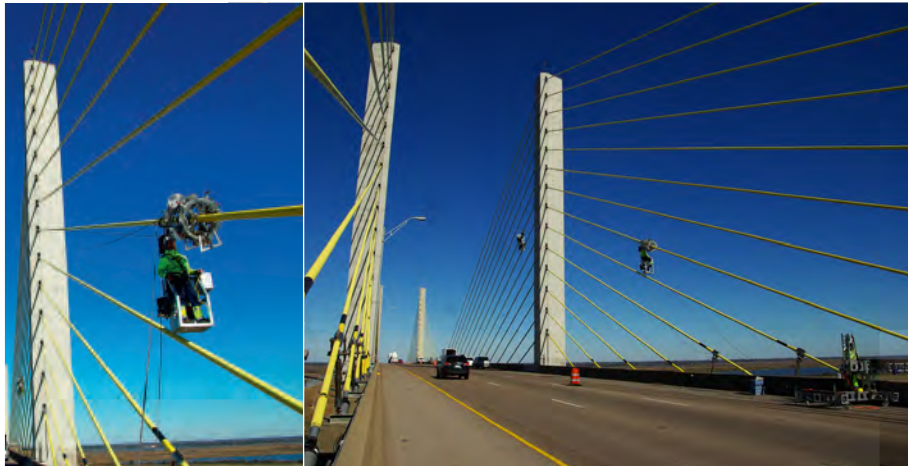
## BUILDING

- **Year:** 2013 - 2014
- **Type of building:** Suspension bridge
- **Number of cables:** 2 main cables (each twin cables)
- **Cable surface:** old paint
- **Total surface to protect:** 130 m<sup>2</sup>
- **Effective application time:** 35 days
- **Environmental conditions:** normal
- **Preliminary documentation:** yes, visual inspection within arm's reach
- **Other activities:** dehumidification option, protection of the hanger clamps by **ATIS cable boot®**, monitoring system **ATIS control**

## IMPRESSIONS

### **Veterans Memorial Bridge, USA**

Client: Texas Department of Transportation/SCR



## BUILDING

- **Year:** 2014/2015
- **Type of building:** motorway bridge
- **Number of cables:** 112, parallel wired
- **Cable surface:** Tedlar wrapped
- **Total surface to protect:** 2.330 m<sup>2</sup>
- **Effective application time:** 44 days
- **Environmental conditions:** normal, temporary industrial atmosphere
- **Preliminary documentation:** none
- **Other activities:** duct repair, PE welding

### **Köhlbrand Bridge, Germany**

Client: HPA Hamburg Port Authority





## BUILDING

- **Year:** 2010
- **Type of building:** highway bridge
- **Number of cables:** 88 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 2.300 m<sup>2</sup>
- **Effective application time:** 81 days
- **Environmental conditions:** industrial atmosphere, salt spray
- **Preliminary documentation:** yes, panorama image **ATIS Viewer**
- **Documentation after application:** yes, panorama image **ATIS Viewer**
- **Other activities:** magneto-inductive inspection

## IMPRESSIONS

### Valley bridge Obere Argen, Germany

Client: Regional council Tübingen, Construction management Town Wangen

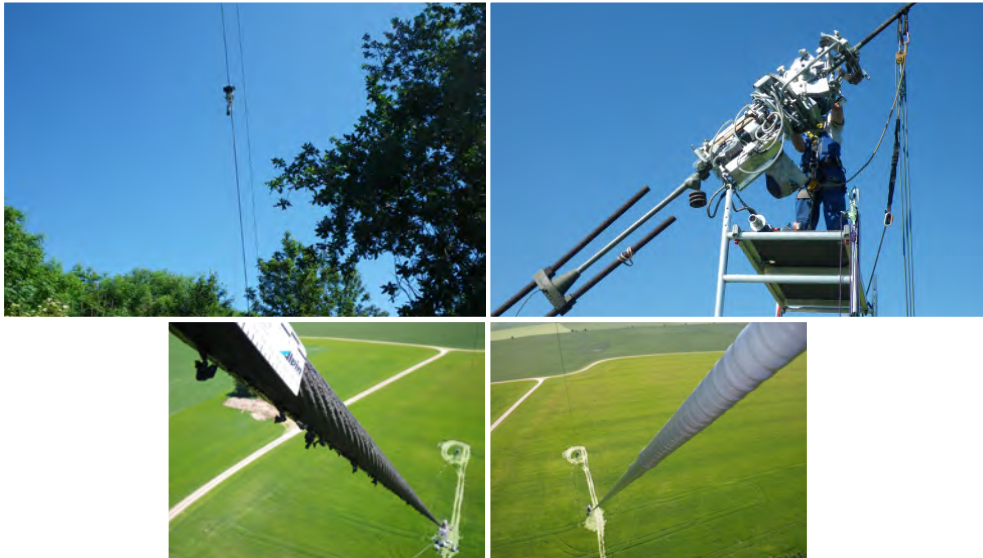


## BUILDING

- **Year:** 2012
- **Type of building:** highway bridge
- **Number of cables:** 22 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 670 m<sup>2</sup>
- **Effective application time:** 31 days
- **Environmental conditions:** normal atmosphere, salt spray
- **Preliminary documentation:** yes, panorama image **ATIS Viewer**
- **Documentation after application:** yes, panorama image **ATIS Viewer**
- **Other activities:** retrofitting of bearings, vibration measurements, ultra sonic investigations at cable sockets

### **Communication mast, Sweden**

Client: ÅF, Division Infrastructure, Stockholm



## BUILDING

- **Year:** 2011
- **Type of building:** communication mast
- **Number of cables:** one spiral cable
- **Cable surface:** greased
- **Total surface to protect:** 10 m<sup>2</sup>
- **Effective application time:** 1 day
- **Environmental conditions:** normal atmosphere
- **Preliminary documentation:** yes, panorama image **ATIS Viewer**
- **Documentation after application:** yes, panorama image **ATIS Viewer**

# CONTACT

Eric Kuhn  
Proxy  
kuhn@alpintechnik.de

Carsten Zimmermann  
Division Manager Infrastructure  
zimmermann@alpintechnik.de

Alpin Technik und Ingenieurservice GmbH  
Plautstr. 80  
D-04179 Leipzig

Tel.: +49 341 22573-10  
Fax: +49 341 22573-22  
E-mail: info@alpintechnik.de

