



ATIS CABLESKIN®

LONG TERM CORROSION PROTECTION SYSTEM
FOR CABLES

SHORT DESCRIPTION
REFERENCE LIST

ATIS CABLESKIN®

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

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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

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LIFETIME 60+ YEARS

No malfunction of butyl rubber protection since 1970 recorded

- worldwide approx. 107.000.000 m² 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



ATIS CABLESKIN®

APPROVALS


 Deutsches Institut für Bautechnik

Zulassungsjahre für Bautechnik und Bauteile
 Bauteiltechnisches Prüfamt
 Eine vom Bund laut dem Grundgesetz
 selbstständig getragene Anstalt des öffentlichen Rechts
 Mitglied der EFTA, der UNEF und der VETAG

Datum: 23.03.2016 Gültigkeitsdauer: 100-1,30,11-2015

Zulassungssnummer: **Z-30.1141**
 Geltungsdauer: vom **29. März 2016** bis **29. März 2021**

Antragsteller:
Alpin Technik und Ingenieurservice GmbH
 Plautzstraße 80
 04179 Leipzig

Zulassungsgegenstand:
Korrosionsschutzverfahren ATIS CableSkin® für tragende Seile

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.


 DEUTSCHES INSTITUT FÜR BAUTECHNIK

0100 | E-Mail: service@diwt.de | Tel.: +49 30 2302-0 | Fax: +49 30 2302-177 | E-Mail: info@diwt.de | www.dibt.de


 Deutsches Institut für Bautechnik



Mitglied der EFTA
 Member of VETAG

European Technical Approval ETA-13/0171
 original: translation prepared by List + Ungerlechner in German language

Händlerbezeichnung Trade name Zulassungsinhaber Holder of approval Zulassungsgegenstand und Verwendungszweck Goods type and use of construction product Geltungsdauer: Validity Hersteller: Manufacturing plant	Korrosionsschutzverfahren ATIS CableSkin Corrosion protection system ATIS CableSkin Alpin Technik und Ingenieurservice GmbH Plautzstraße 80 04179 Leipzig DEUTSCHLAND Korrosionsschutzverfahren für tragende Seile Corrosion protection system for load bearing cables 8 April 2013 8 April 2018 Alpin Technik und Ingenieurservice GmbH
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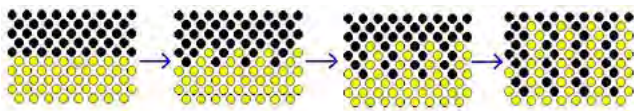
Diese Zulassung umfasst: 10 Dateien einschließlich 4 Anlagen
 This approval contains: 10 pages including 4 annexes


 Europäische Organisation für Technische Zulassungen
 European Organization for Technical Approvals

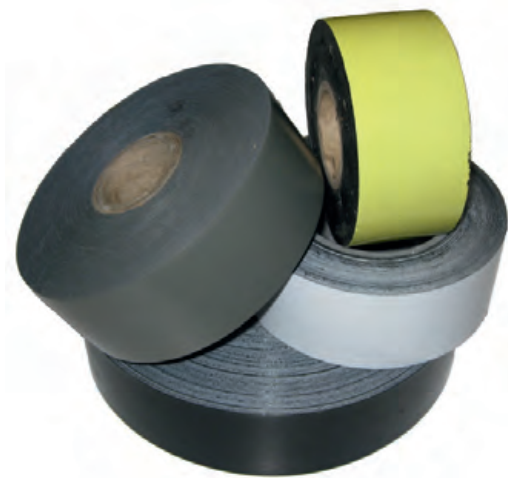


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COMPOSITION



Cold welding process by interdiffusion



Many colors available

www.alpintechnik.com



Tape peeled off from cable surface after wrapping

since 1999 ISO 9001 & SCC certified



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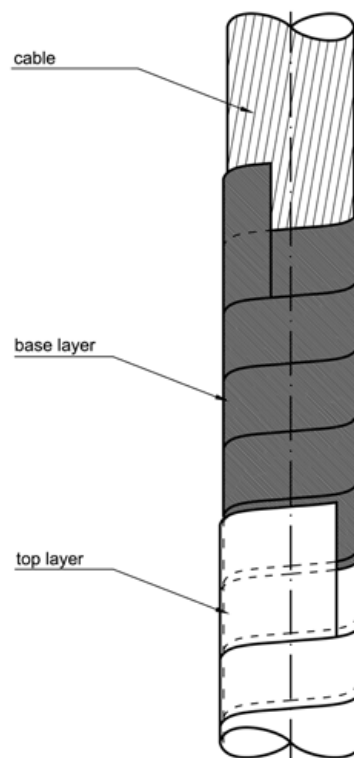
WRAPPING

Base layer:

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

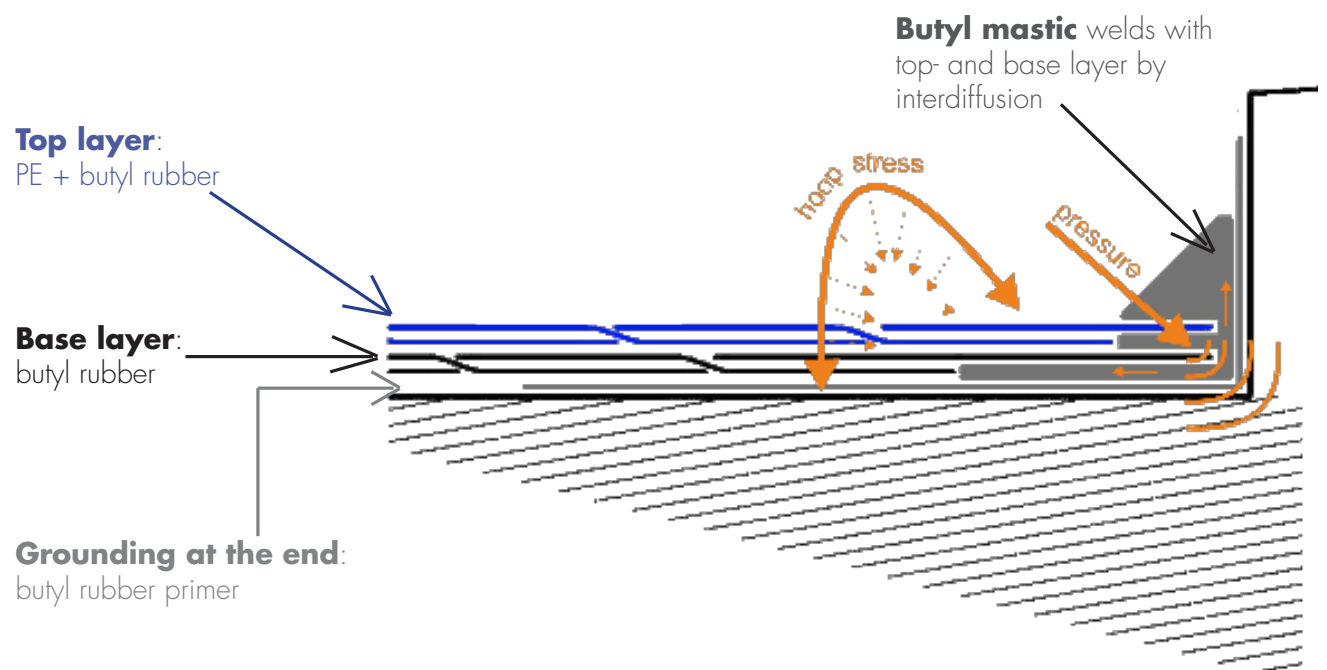
Top layer:

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



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CONNECTION TO STRUCTURE



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SUSPENSION CABLES

Customized solutions



Open cable bundle 600 by 450 mm



Twin cable
150 mm diameter



Compacted cable bundle
500 mm diameter

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SUSPENSION CABLES

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

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SUSPENSION CABLES

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

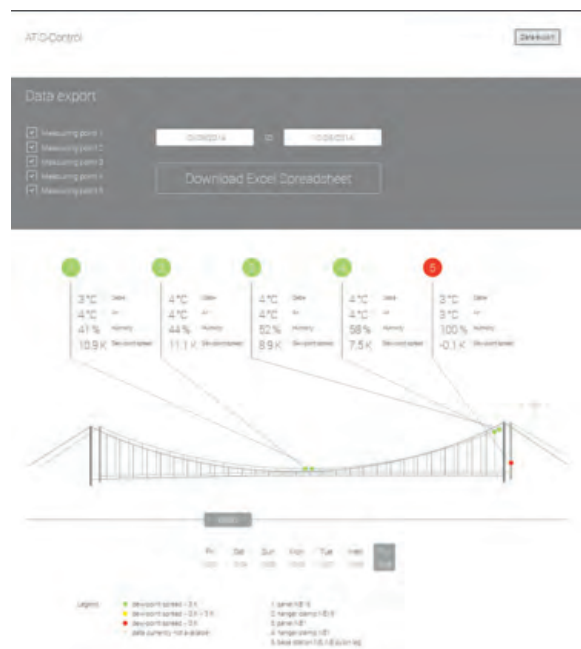


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SUSPENSION CABLES

MONITORING

ATIS control



MONITORING

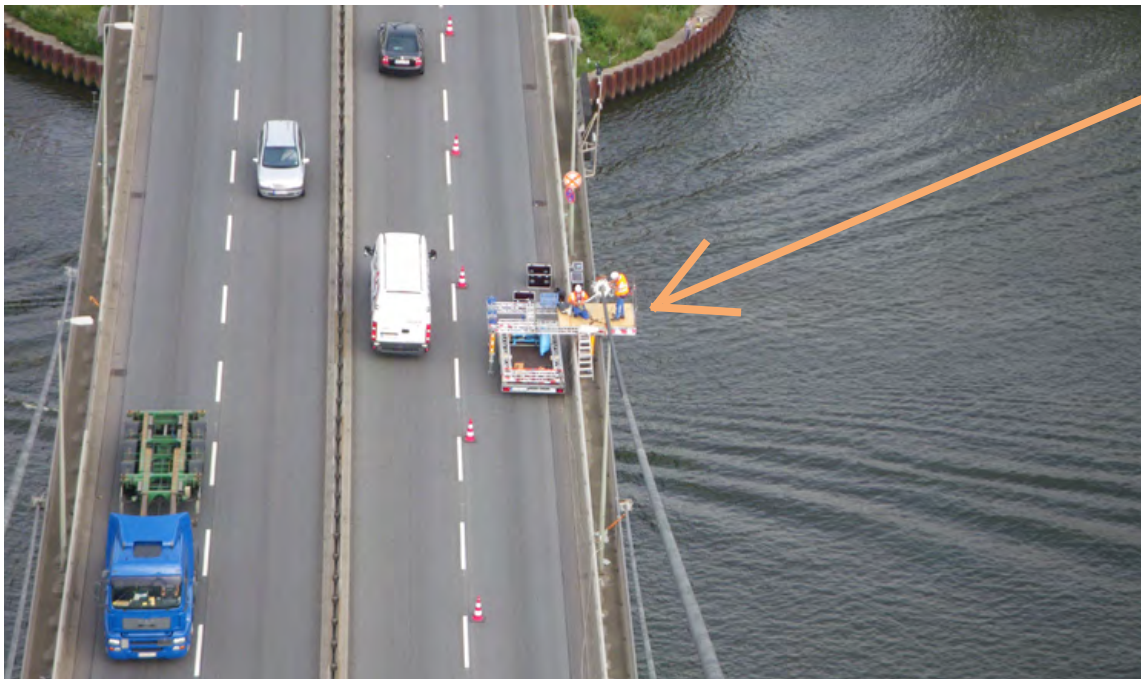
ATIS control

- 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

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APPLICATION

Low impact on traffic



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APPLICATION

Work at night



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APPLICATION

Parallel work



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WRAPPING DEVICES

ATIS cable robot



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ATIS CABLESKIN®

IMPRESSIONS

Wind tower, Denmark

Client: DYWIDAG-Systems International GmbH



ATIS CABLESKIN® WIND TOWER, DENMARK

BUILDING

- **Year:** 2017
- **Type of building:** wind tower
- **Number of cables:** 3 PE-ducted stay cables
- **Cable surface:** PE
- **Total surface to protect:** 190 m²
- **Effective application time:** 3 days
- **Environmental conditions:** C5-M atmosphere, heavy seawater load
- **Preliminary documentation:** none



ATIS CABLESKIN®

IMPRESSIONS

Fred Hartman Bridge, USA

Client: Texas Department of Transportation/SCR



ATIS CABLESKIN® FRED HARTMAN BRIDGE, USA

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 m²
- **Effective application time:** 90 days
- **Environmental conditions:** normal, temporary industrial atmosphere
- **Preliminary documentation:** none
- **Other activities:** adjustment of the cable dampers, PE welding



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IMPRESSIONS

Passerelle des deux Rives, Germany/France

Client: Town of Kehl, Town of Strasbourg



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ATIS CABLESKIN® PASSERELLE DES DEUX RIVES, GERMANY/FRANCE

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 m²
- **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



ATIS CABLESKIN®

IMPRESSIONS

Footbridge Sindelfingen, Germany

Client: Town of Sindelfingen



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ATIS CABLESKIN® FOOTBRIDGE SINDELFINGEN, GERMANY

BUILDING

- **Year:** 2014
- **Type of building:** footbridge
- **Number of cables:** 8 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 30 m²
- **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®**

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IMPRESSIONS

Ophus Bridge, Norway

Client: Consolvo, Statens Vegvesen



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ATIS CABLESKIN® OPHUS BRIDGE, NORWAY

BUILDING

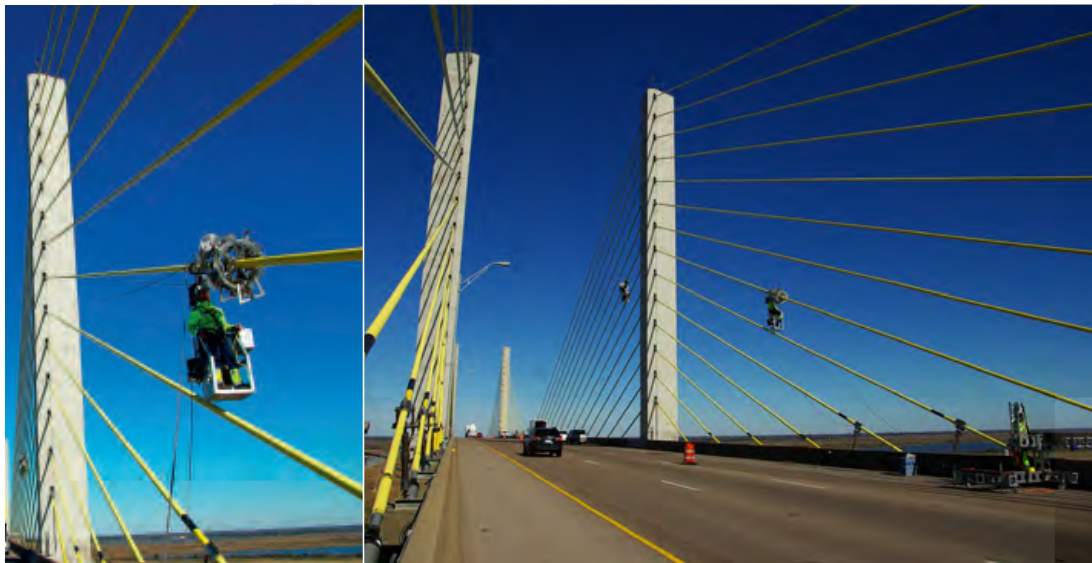
- **Year:** 2013 - 2014
- **Type of building:** Suspension bridge
- **Number of cables:** 2 main cables (each twin cables)
- **Cable surface:** old paint
- **Total surface to protect:** 130 m²
- **Effective application time:** 35 days
- **Environmental conditions:** normal
- **Preliminary documentation:** yes, visual inspection within arm's reach
- **Other activities:** dehumidification option, protection of the hanger clamps by **ATIS cable boot®**, monitoring system **ATIS control**

ATIS CABLESKIN®

IMPRESSIONS

Veterans Memorial Bridge, USA

Client: Texas Department of Transportation/SCR



ATIS CABLESKIN® VETERANS MEMORIAL BRIDGE, USA

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 m²
- **Effective application time:** 44 days
- **Environmental conditions:** normal, temporary industrial atmosphere
- **Preliminary documentation:** none
- **Other activities:** duct repair, PE welding



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IMPRESSIONS

Köhlbrand Bridge, Germany

Client: HPA Hamburg Port Authority



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ATIS CABLESKIN® KÖHLBRAND BRIDGE, GERMANY

BUILDING

- **Year:** 2010
- **Type of building:** highway bridge
- **Number of cables:** 88 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 2.300 m²
- **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

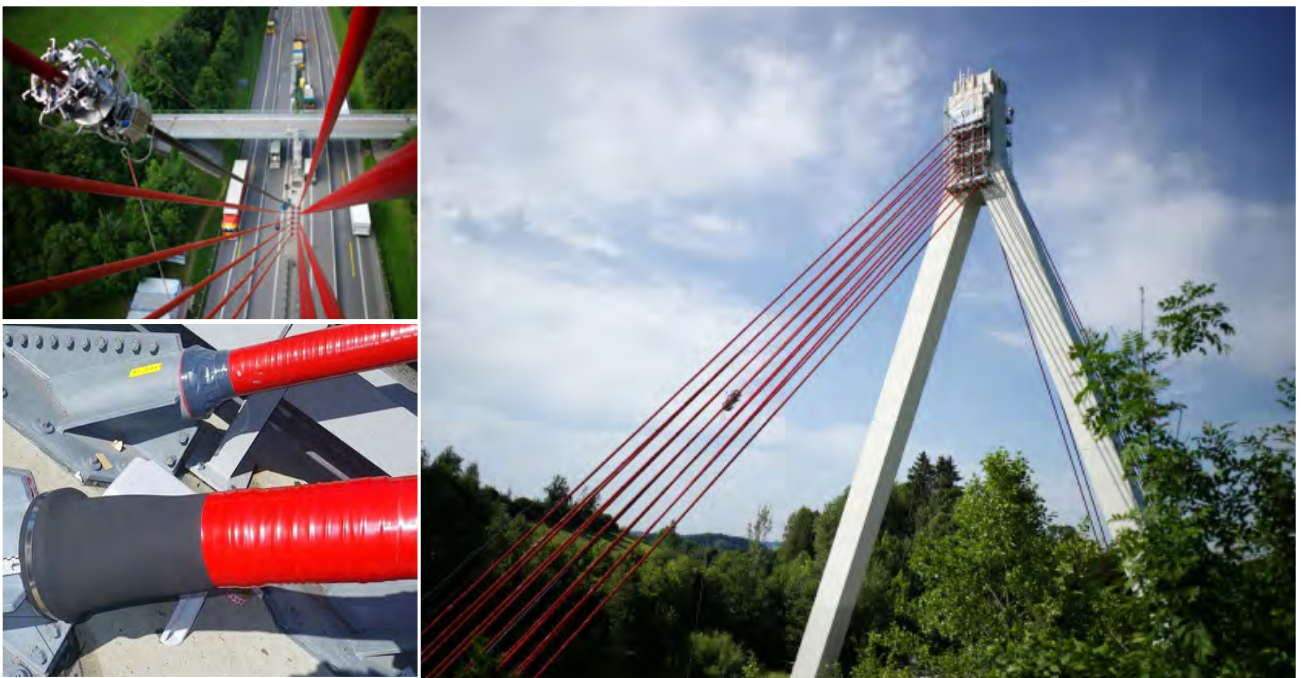


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IMPRESSIONS

Valley bridge Obere Argen, Germany

Client: Regional council Tübingen, Construction management Town Wangen



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ATIS CABLESKIN® OBERE ARGEN BRIDGE, GERMANY

BUILDING

- **Year:** 2012
- **Type of building:** highway bridge
- **Number of cables:** 22 full locked
- **Cable surface:** old paint
- **Total surface to protect:** 670 m²
- **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

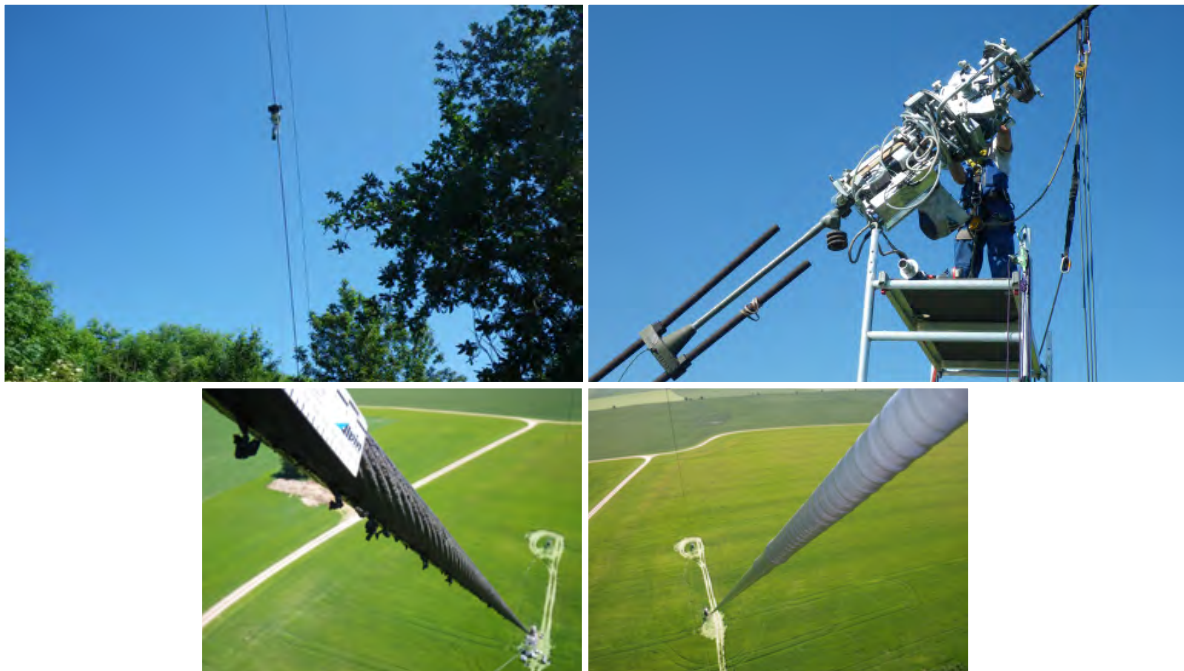


ATIS CABLESKIN®

IMPRESSIONS

Communication mast, Sweden

Client: ÅF, Division Infrastructure, Stockholm



ATIS CABLESKIN® COMMUNICATION MAST, SWEDEN

BUILDING

- **Year:** 2011
- **Type of building:** communication mast
- **Number of cables:** one spiral cable
- **Cable surface:** greased
- **Total surface to protect:** 10 m²
- **Effective application time:** 1 day
- **Environmental conditions:** normal atmosphere
- **Preliminary documentation:** yes, panorama image **ATIS Viewer**
- **Documentation after application:** yes, panorama image **ATIS Viewer**

