



**Top Quality
For Railway Solutions**



TEAFLEX[®]
INDUSTRIAL CABLE PROTECTION

The Company

- TEAFLEX Spa, on the market from 70s, is a leader company for Electrical Cable Protection is a dynamic company, up to date, every day faces the challenges of the market, triggering a great capacity for innovation of the group.



- Thanks to an international agents' network and associated companies, Teaflex has a global presence, providing qualified and high level contact.
- Teaflex products are suitable for use in an exceptionally wide range of areas, from railway, civil and industrial plants, to robotics, electric and nuclear power stations, machine tools and automotive.

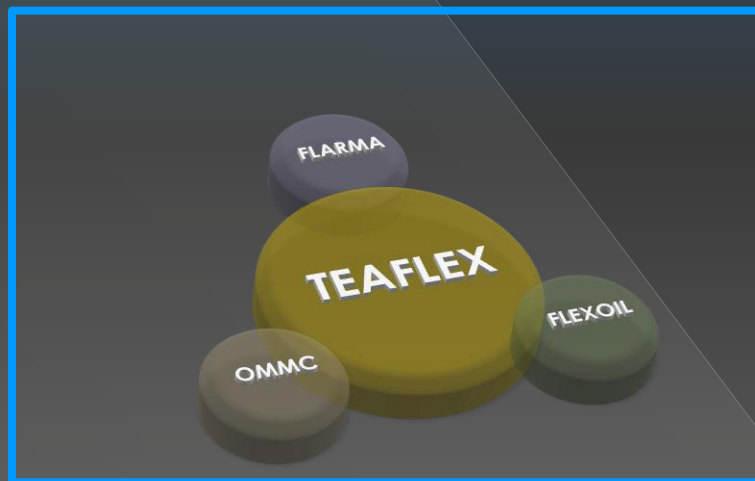
The Group



Teaflex Spa leads a strong and consolidated group, composed of 4 firms that combine their skills and ability to achieve a common goal.

Teaflex group produces in Italy metal and plastic conduits with relevant fittings, cable glands, pipes, braids.

The group is composed as follows:



RAILWAY References



Hitachi Rail

- ◉ Tram Florence (Sirio)
- ◉ Metro LIMA
- ◉ Trains VIVALTO
- ◉ Trains TSR
- ◉ EMU CARAVAGGIO
- ◉ Metro LEONARDO
- ◉ Metro SALONICCO
- ◉ Metro TAIPEI
- ◉ Metro MILANO
- ◉ Metro Miami
- ◉ Metro Milan L4
- ◉ Metro Sanying
- ◉ Metro Madrid

Alstom

- ◉ Cisalpino
- ◉ West Coast Main Line (4 pendolini and 62 coaches)
- ◉ GTT Gruppo Torinese Trasporti (9 trains CTR)
- ◉ Modernization concerning trains CTR on behalf of Trenitalia
- ◉ Helsinki – San Pietroburgo
- ◉ NTV- Nuovi Treni Veloci (Italo)- High Speed Trains
- ◉ Minuetto Trains
- ◉ New Pend (Frecciarossa)- High Speed
- ◉ ETR Finland
- ◉ China New Pend- High Speed
- ◉ PKP-SBB
- ◉ CORADIA MERIDIAN
- ◉ Revamping coaches ZI
- ◉ NTV Italo EVO

Bombardier

- ◉ E464 Traxx Renfee (Spain)
- ◉ Comsa Renfee Locomotives (Spain)
- ◉ Trenitalia E483
- ◉ E483 WBS Enm Veicle 8 (Swiss)
- ◉ CTR Ferrovie Nord Milano
- ◉ Angel Train Traxx in Uk

Ansaldo Breda

- ◉ Trenitalia Treno E403 a
- ◉ Trenitalia ETR500 Pendolino
- ◉ Tram Sirio Milano – Napoli – Goteborg

CAF

- ◉ Loco E 402 A (Trenitalia)

RAILWAY References

ATM, Milano

- ⦿ Meneghino AB revamping
- ⦿ 1936 trains dated revamping



GTT, Torino

- ⦿ Minuetto revamping

Hyundai-Rotem

- ⦿ 161 coaches SCRRA (Usa, Southern, California: passenger coaches double decker)
- ⦿ 75 coaches MBTA (USA, Boston, Massachussets: passenger coaches double decker)
- ⦿ 102 coaches AM3 (Grecee, Athens, EMU: Attiko Metro SA)

H.Cegielski - Fabryka Pojazdów Szynowych Sp. z o.o.

- ⦿ 20 trains EN57 FRailway vehicle type 213Ma ENIKS - modernization (Poland, PTS Sp. z o.o.)
- ⦿ 01 railway vehicle type 213 Ma- modernization (Poland, Lubuskie)
- ⦿ 90 coaches 111A-141A - modernization (Poland, PKP Intercity.)

Newag S.A.

- ⦿ 05 electric locomotives DRAGON E6ACTd (Poland, Freightliner PL)
- ⦿ 01 electric locomotives DRAGON E6ACTd (Poland, Budokrusz)
- ⦿ 20 electric locomotives DRAGON 2
- ⦿ 20 three-car metro trains INSPIRO(Bulgaria, Metropolitan EAD SOFIA)

Solaris Bus & Coach S.A.

- ⦿ 41 Trams TRAMINO XL(Germany, Leipziger Verkehrsbetriebe GmbH)

ZNTK Minsk Mazowiecki S.A.

- ⦿ 06 trains ED72 – modernization (Poland, Prewozy Regionalne) – metal system
- ⦿ 36 trains EN57 – modernization (Poland, Prewozy Regionalne) – metal system
- ⦿ 05 trains EN57 – modernization (Poland, Koleje Wielkopolskie) – metal system
- ⦿ 39 trains EN57 – modernization (Poland, Koleje Mazowieckie) – metal system

RAILWAY References

RAIL POLSKA Sp. z o.o.

- 01 electric locomotive 207E (Poland)

ZPS Sp. z o.o.

- 02 railway special vehicles (Poland,PLK)

Beijing Yowelt Co.,Ltd.

- Metro Guangzhou City line 4,Line 5
- Metro Beijing Line 8
- CRH3,CRH2 high speed train
- Metro Chengdu City line



Woojin

- 84 coaches DAEGU MONO (Korea, Daegu Metro Line 3: Monorail)

Rowin

- 56 coaches SMRT56 (Korea, Seoul Metro Line 7, EMU)

Buwon Tech.

- SMRT Mall Biz (Korea, Seoul Metro Line 5-8, EMU, Remodeling Biz)

Trenitalia

- Customized KIT for maintenance concerning Frecciarossa and Frecciargento with RWP conduit with stainless steel braid (special cut and assembled with fittings)
- Revamping Medium Distance (MD) coaches

Teaflex Products and Markets



Management Systems Certifications



ELITEWELL

CERTIFICATO ♦ CERTIFICADO ♦ CERTIFIKAT ♦ CERTIFICATE ♦ 认证证书



CERTIFICATO

Nr 50 100 7752 - Rev. 05

Si attesta che / This is to certify that
IL SISTEMA QUALITA' DI
TEAFLEX S.p.A.

SEDE LEGALE E OPERATIVA:
REGISTERED OFFICE AND OPERATIONAL SITE:
VIA DELLE VIGNE 28
I-20853 BIASSONO (MB)

E' CONFORME AI REQUISITI DELLA NORMA
HAS BEEN FOUND TO COMPLY WITH THE REQUIREMENTS OF
UNI EN ISO 9001:2008

QUESTO CERTIFICATO E' VALIDO PER I SEGUENTI CAMPI DI APPLICAZIONE
THIS CERTIFICATE IS VALID FOR THE FOLLOWING SCOPE:

Progettazione, fabbricazione e commercializzazione di raccordi, pressa cavi, guaine e tubi in acciaio zincato e inox per la protezione meccanica di cavi elettrici e di segnale per il settore industriale (IAF 14, 17, 29)
Design and manufacture of fittings, cable glands and conduits for mechanical protection of electrical wires and data-cable in the industrial field. Trade of galvanized steel and stainless steel pipes for mechanical protection of electrical wires in the industrial field (IAF 14, 17, 29)

Per l'Organismo di Certificazione
For the Certification Body
TUV Italia S.r.l.

Validità / Validity
Dal / From: **2015-06-17**
Al / To: **2018-06-16**

Il Responsabile
The Responsible Person
Andrea Cocca
Direttore Divisione Management Services

Data emissione / Printing Date
2015-06-30

PRIMA CERTIFICAZIONE / FIRST CERTIFICATION: 2008-05-28

*LA VALIDITA' DEL PRESENTE CERTIFICATO E' SOTTOPOSTA A SORVEGLIANZA PERIODICA A 12 MESI E AL REVISIONE COMPLETIVA DEL SISTEMA DI GESTIONE ACCREDITATO CON ACCREDITAMENTO INTERNAZIONALE.
*THE VALIDITY OF THE PRESENT CERTIFICATE DEPENDS ON THE REGULAR SURVEILLANCE VISITS AT 12 MONTHS AND ON THE COMPLETE REVIEW OF COMPANY'S MANAGEMENT SYSTEM BY TUV ITALY.

TUV Italia S.r.l. - Gruppo TÜV SÜD • Via Caraccioli 125, Pal. 23 • 20089 Sesto San Giovanni (MI) • Italia • www.tuv.it TÜV®

CERTIFICATO ♦ CERTIFICADO ♦ CERTIFIKAT ♦ CERTIFICATE ♦ 认证证书




CERTIFICATE

awarded to

TEAFLEX SPA
VIA DELLE VIGNE 28
20046, BIASSONO
Italy

TÜV SÜD Management Service GmbH

confirms, as an IRIS approved certification body, that the Management System of the above organization has been assessed and found to be in accordance with the

International Railway Industry Standard (IRIS)
Revision 02, June 2009

for the activities of Design and Development and Manufacturing for the scopes of certification: 20 (Single railway components)

Design and manufacture of conduits, cable glands and fittings for protection of electrical cables

Certificate valid from: 16/06/2015 Certificate valid until: 15/06/2018*

Current date: 03/09/2015

Certificate-Register-No.: 12 113 36670

*Providing that the subsequent surveillance audits are successful before the validity date of the previous audit.
Certification body address: Pöschel, St. 62030 Kirchdorf, Germany

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1/1

TÜV SÜD Management Service GmbH • Zertifizierungsbüro • Referenz-Nr. 01 • 80339 München • Germany
www.tuv-sud.de/certificate-validity-check TÜV®

CERTIFICATO ♦ CERTIFICADO ♦ CERTIFIKAT ♦ CERTIFICATE ♦ 认证证书



NOTIFICA

1) NOTIFICA DELLA GARANZIA DI QUALITÀ DEI PRODOTTI

2) Apparecchiature o Sistemi di Protezione o Componenti destinati ad essere utilizzati in atmosfere potenzialmente esplosive
Direttiva 2014/54/UE

3) Numero della Notifica:
TÜV IT 16 ATEX 057 Q

4) Tipo di prodotto o componente: Pressacavi, Raccordi

5) Principio di protezione: e, l

6) Richiedente: Teaflex S.p.a.
Via delle Vigne, 28
20853, Biassono (MB), ITALY

7) Costruttore: Teaflex S.p.a.
Via delle Vigne, 28
20853, Biassono (MB), ITALY

8) Il TÜV Italia, organismo notificato n° 0946 in conformità alla Direttiva 2014/54/UE del Consiglio dell'Unione Europea del 26 Febbraio 2014, notifica al richiedente che il costruttore ha un sistema di qualità della produzione conforme all'Allegato VI della Direttiva.

9) Questa notifica è basata sul rapporto di verifica ispettiva n° R 16 EX 044 rilasciato il 27.09.2016. I risultati delle verifiche periodiche del sistema di qualità sono parte di questa notifica.

10) Questa notifica è valida fino al 27.09.2019* e può essere ritirata se il costruttore non soddisfa le verifiche periodiche di garanzia di qualità della produzione.

11) In accordo con l'Articolo 16 paragrafo 3 della Direttiva 2014/54/UE la marcatura CE deve essere apposta da n° 0946 che identifica l'organismo notificato designato al controllo della produzione. Questa notifica può essere riprodotta solo integralmente e senza alcuna variazione.

Data emissione: 28 Settembre 2016

ACCREDIA
Organismo notificato n° 0946

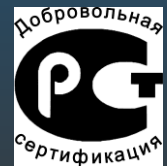
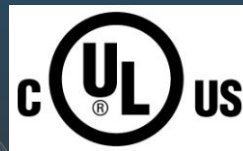
TÜV Italia S.r.l.
Industry Service Real Estate & Infrastructure
Managing Director

*TUV Italia è stata autorizzata dal governo italiano ad operare quale organismo di certificazione di prodotti e sistemi destinati a essere utilizzati in atmosfere potenzialmente esplosive. Questo documento non va ristampato senza il logo ACCREDIA. Questo documento è proprietà intellettuale di TÜV ITALIA.

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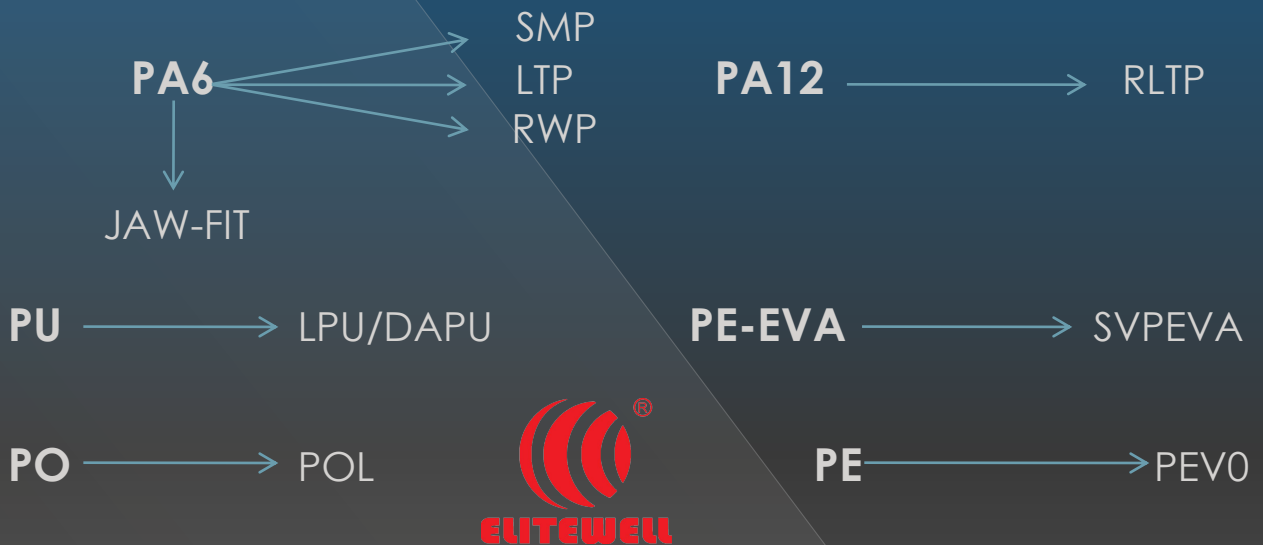


Material Certifications



Railway Products and Materials

Teaflex spa supplies a wide range of standard and custom solutions used for the protection of cables in the Railway and Transit Industry realized with different materials as Polyamide (PA), Polyurethane (PU), Polyethylene-EVA (PE-EVA), Polyolefin (PO) and Polyester (PE)



Railway Products and Approvals



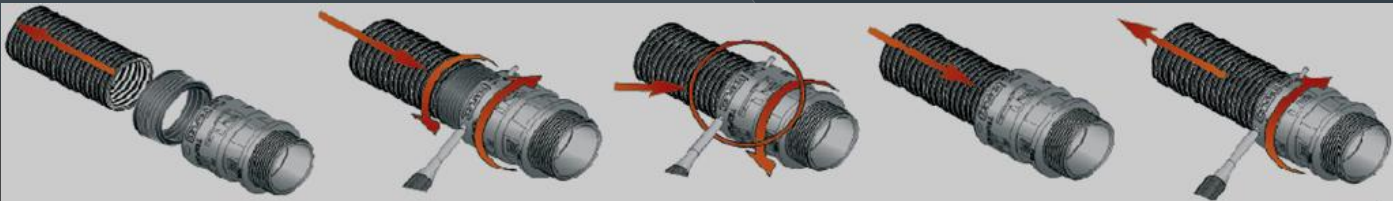
<u>NORMS</u>	SMP	RWP	LTP	RLTP	POL	PE V	LPU/DAP U	SVPEV A	JAW- FIT
UNI CEI 1170	LR4	LR4	LR4	LR4	/	LR4	LR4	LR4	LR4
DIN 55102	S4/SR2/ST 2	S4/SR2/ST2	S4/SR2/ ST2	S4/SR2/ ST2	/	/	/	/	/
SMP 800-C	COMPLIES	COMPLIES	/	COMPLIE S	/	/	/	COMPLIES	COMPLIE S
ASTM E162	COMPLIES	COMPLIES	/	COMPLIE S	/	/	/	COMPLIES	COMPLIE S
ASTM E662	COMPLIES	COMPLIES	/	COMPLIE S	/	/	/	COMPLIES	COMPLIE S
ASTM E1354	COMPLIES	COMPLIES	/	COMPLIE S	/	/	/	COMPLIES	COMPLIE S
BOEING BSS7239	COMPLIES	COMPLIES	/	COMPLIE S	/	/	/	COMPLIES	/
NFF16101	F1	F1/I3	F2/I2	F2/I3	/	F1/I 2	F1/I3	/	F2/I3
UL1696	E124066	/	/	/	/	/	/	/	E124066
EN 45545-2	HL2	HL2	HL3	HL2	HL3	HL3	HL3	HL3	HL2
BS6853	/	/	/	/	IA EXT/IB INT	/	/	/	/
PN-K- 02511:2000	/	CZ IK- 27/2014	CZ IK- 27/2014	CZ IK- 27/2014	/	/	/	/	CZ IK- 27/2014

Jaw-Fit System



EUTEWELL

- Our solutions have exceeded customer expectations in areas where other products fall short. The range IP68 - IP69K- fittings makes for a smooth ride with shock and vibration proof connections to the conduit.
- Our Jaw Fit System makes installation quick, secured and easy, saving time and money.



Degree of Protection



IP68 – IP69K

- 6 Protection against dust. Penetration of dust is totally excluded.
- 8 Protection against immersion. Water must not penetrate the container held in immersion for an undefined period of time.
- 9K Protection against high pressure (80–100bar) and high temperature (80°C) water jets (deep cleaning applications).

Attestation of Conformity
No.: VA_STA 14 01 001

Holder of Attestation: Teaflex S.p.A
Via delle Vigne N° 28
20853 Biassono (MB)

Product: Fittings for corrugated pipes

Model(s): Jaw-Fit series

Tested acc. to: CEI EN 60529:1997
CEI EN 60529/A1:2000

Test report no.: 013_14_STAMB

Degree of protection: IP68 (IPX8 performed at 5 bar of pressure and 30 minutes of test duration)

Factory inspection not required and not performed

Remarks:
Products tested had no change in design, materials, components or processing according to license holder declaration. This Attestation refers to the tested samples described in the Test report above mentioned.
The series production is not subject to a control and is not part of this document.
In case of any changes this attestation will expire and products may require repetition of some tests in order to retain the approval.
This attestation doesn't allow the use of TÜV-SUD mark.

Nicola Berruti
 TÜV Italia Srl - Division Manager Product Service

Scarmagno (TO)
Date: 2014-01-24

TÜV ITALIA SRL - DIVISIONE PS-Consumer and Commercial Products, VIA Montaleghè 8, I-10010 Scarmagno TO



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Technologie-Zentrum für Oberflächentechnik
und Umweltschutz Leipzig GmbH
 Hornumstraße 6 • 04229 Leipzig
 Telefon +49 (0) 34 1 / 4 84 82 - 11 • Fax +49 (0) 34 1 / 4 84 82 - 14
 E-Mail: info@tzo-leipzig.de

TEST REPORT
No. 164a/16

Client: Teaflex
Mr. Dr. Antonio Bianchi
Via delle Vigne 28
20853 Biassono (MB)
Italy

Date of order: 2016-04-28

Date of receiving the specimens: 2016-05-17 and 2016-05-20

Period of testing: 2016-05-17 to 2016-05-23

1 TEST OBJECT

1.1 Designation / Number of pieces
JAW-FIT Fittings in different size / 6 pieces
labelled with size 7, 10, 12, 17, 23 and 29
mounted in a box and equipped with a dummy conduit carried out by the client

1.2 Producer see client

2 TASK

Testing to determine the degree of protection IP Code X9K in accordance with ISO 20853 : 2013-02

3 TEST PROGRAMME

3.1 Initial examinations

3.1.1 Function carried out by the client

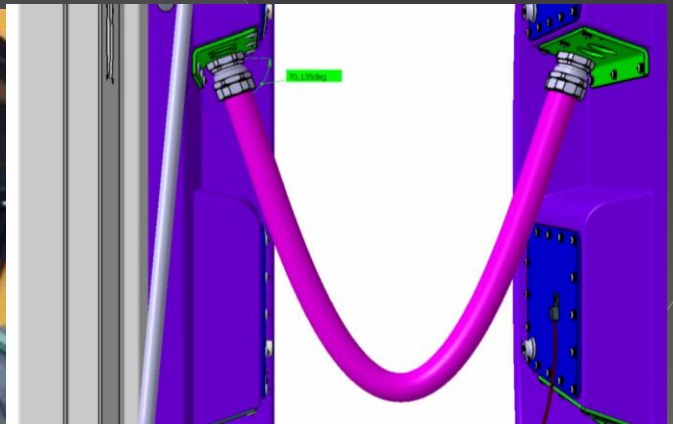
3.1.2 Visual inspection

Custom Solutions



EUTEWELL

- Teaflex spa supplies a wide range of standard and custom solutions used for the protection of cables in the Railway and Transit Industry.
- Our solutions have been designed in accordance with railway engineers and designers and can be applied in the resilient and redoubtable environments in and around rail applications that include areas underneath, on top and between rail cars.
- Teaflex spa proposes also innovative keys for Railway Infrastructure
- A Test-machinery has been realized for testing the mechanical resistance of the Kit.



RAILWAY

TEAFLEX APPLICATIONS





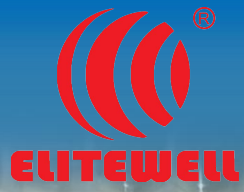
HV jumper cable as inter car body connection





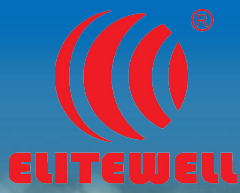
RWP polyamide conduits, PAR fittings

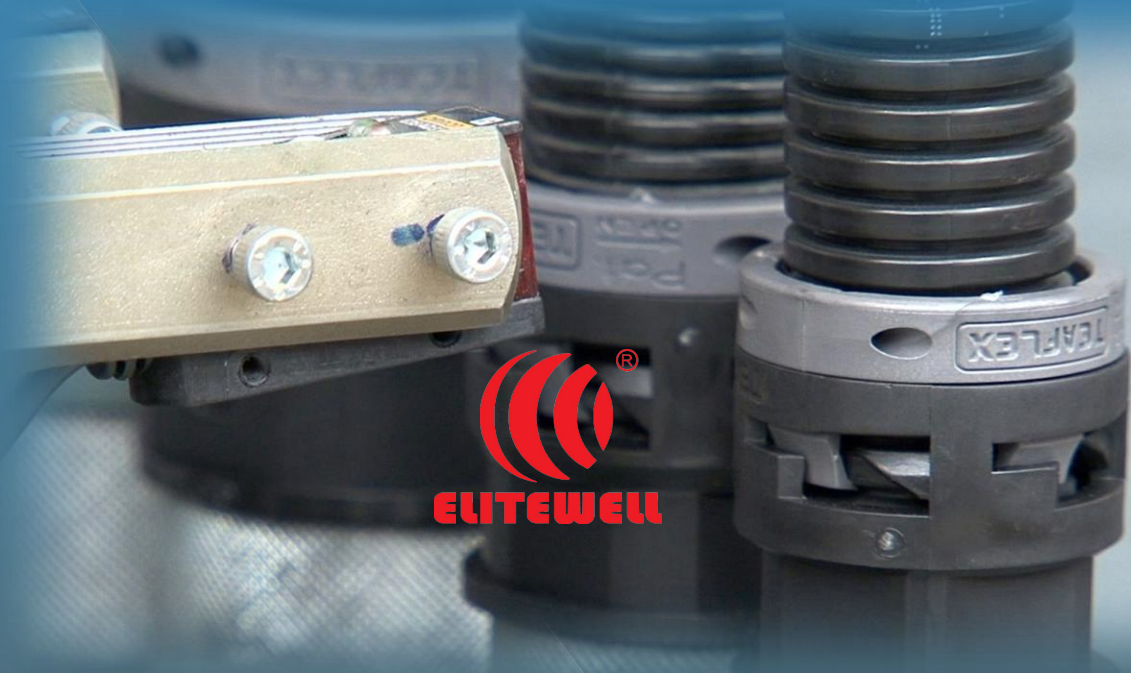




JAW FIT SYSTEM









PEV0 – Polyester braid sleeve

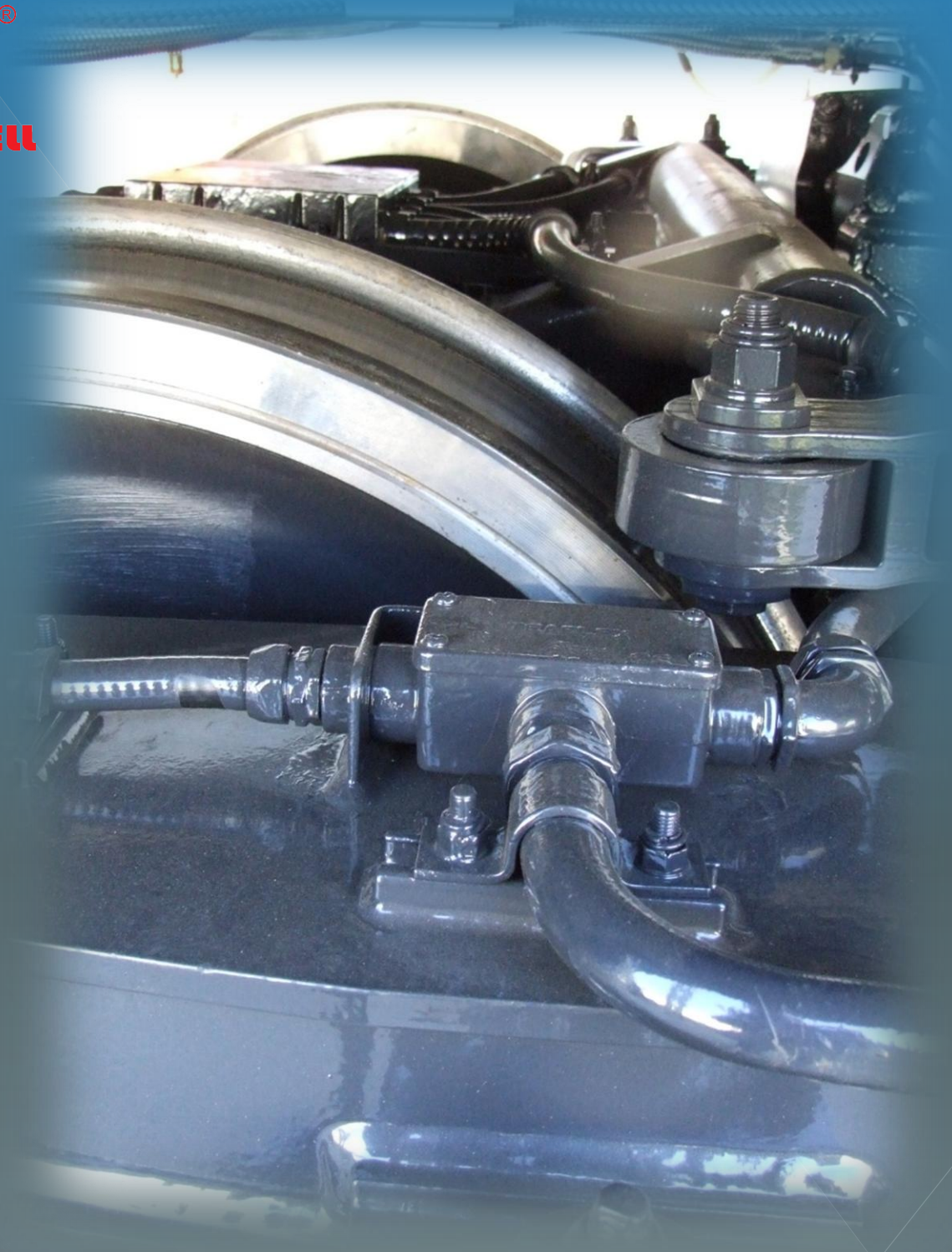


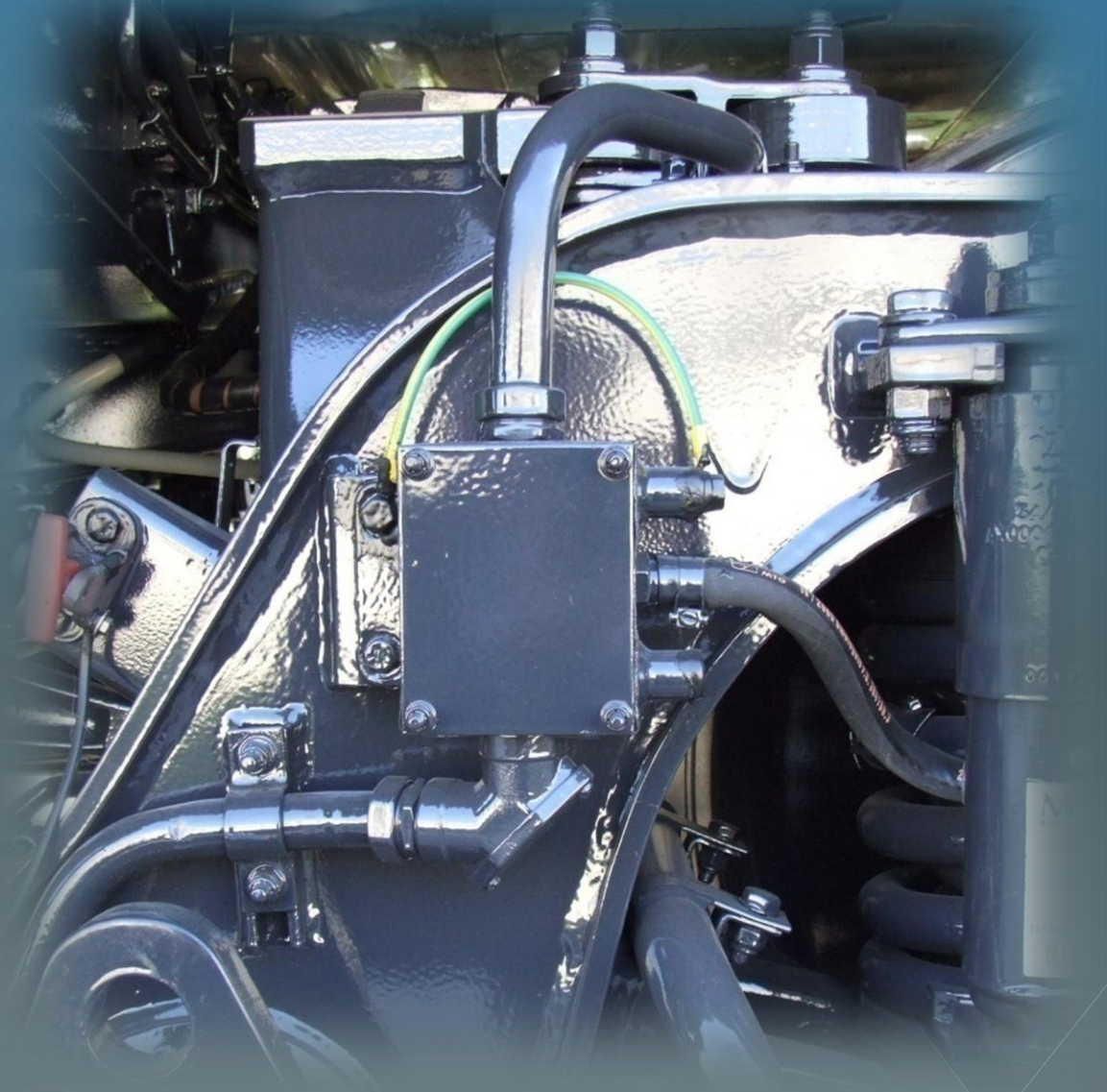


10XMT1











985
20x19
MISA
MADE IN ITALY

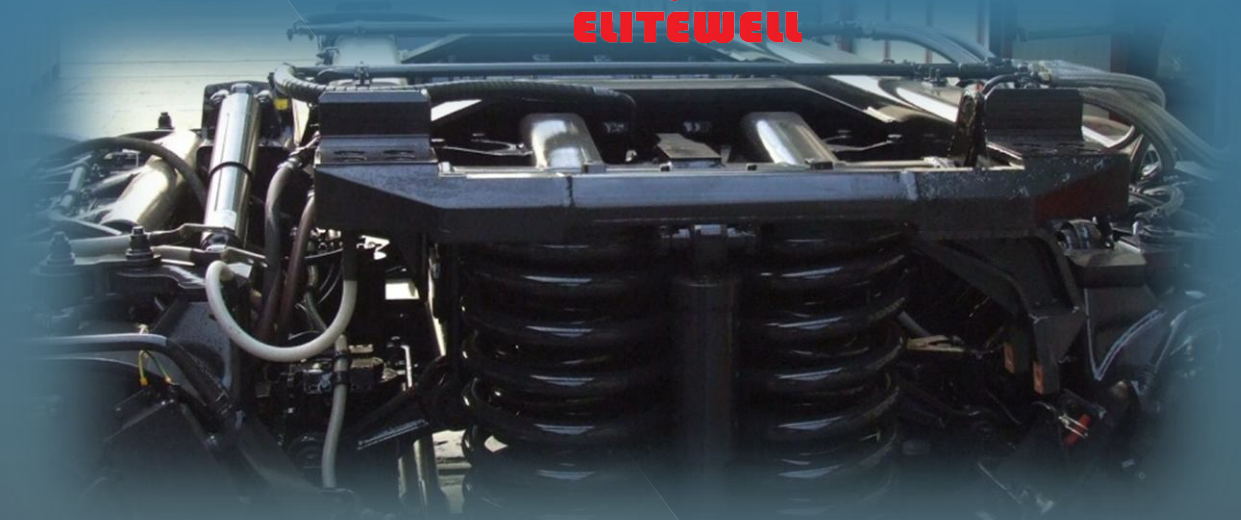
TEFLON

20x19

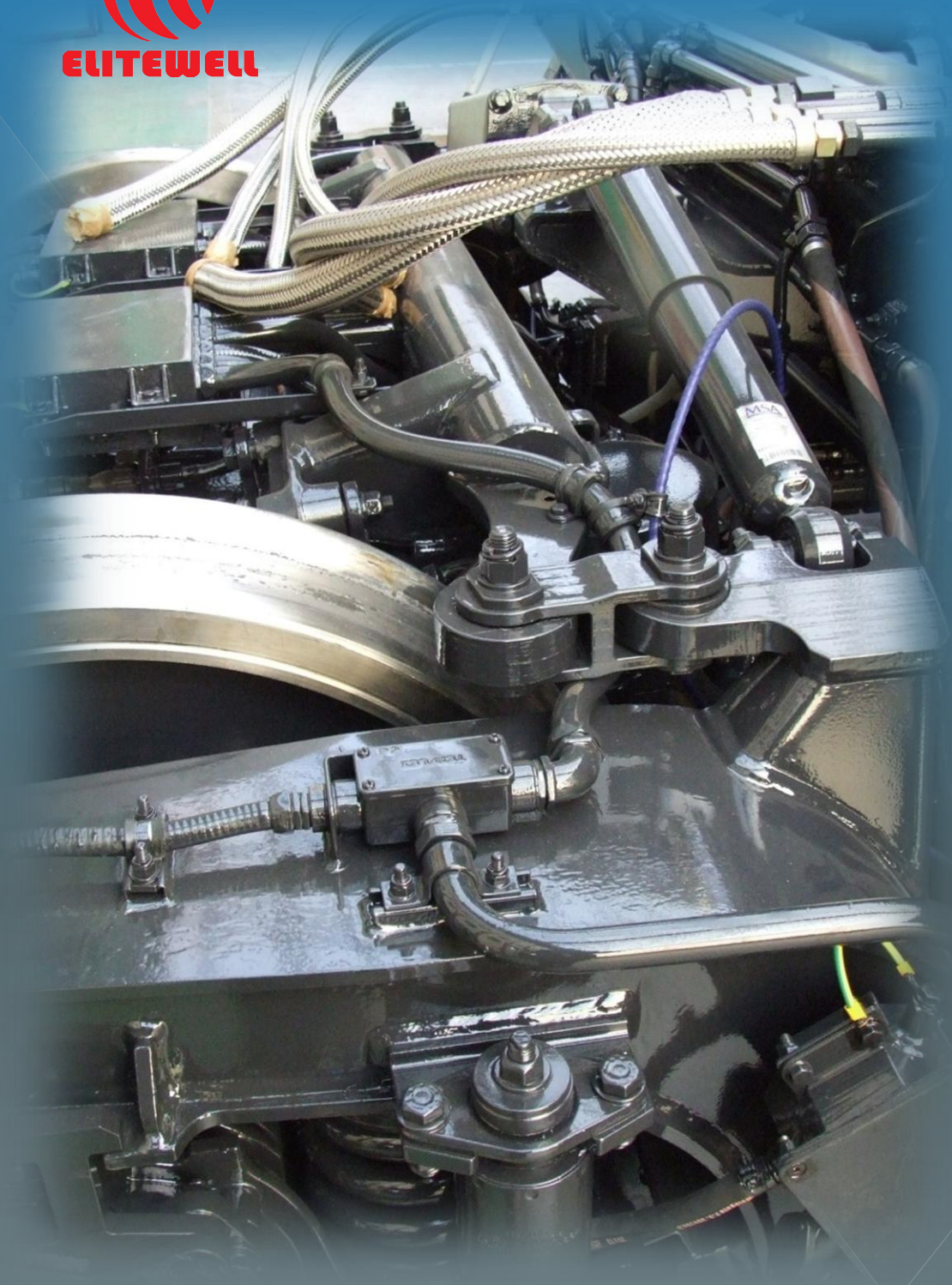


FF cable glands series



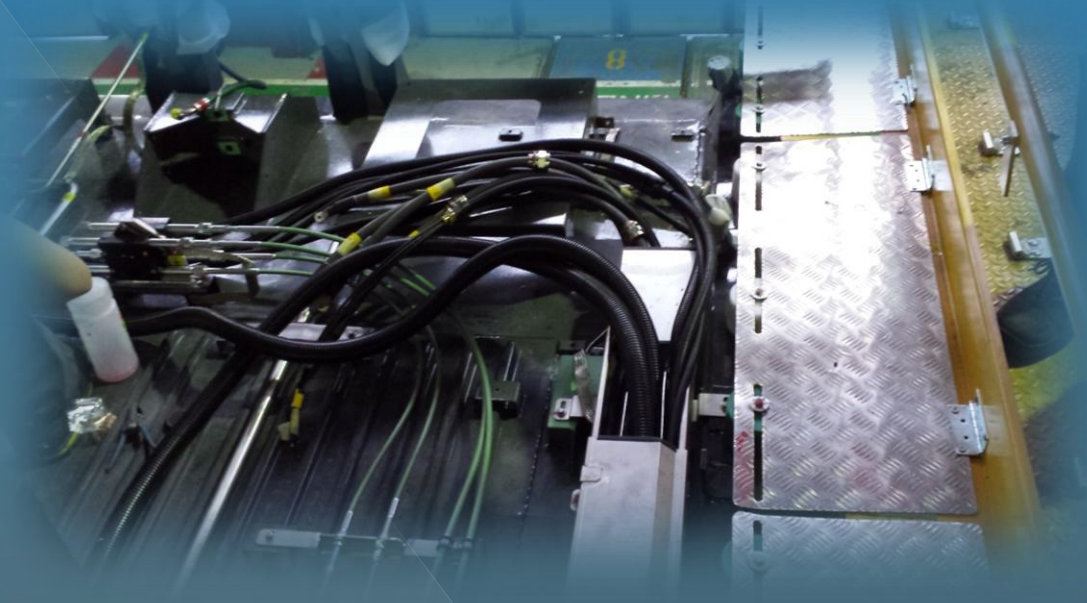
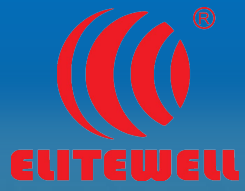


RWP conduit with stainless steel braid (customized KITFR001 and KITFR002)



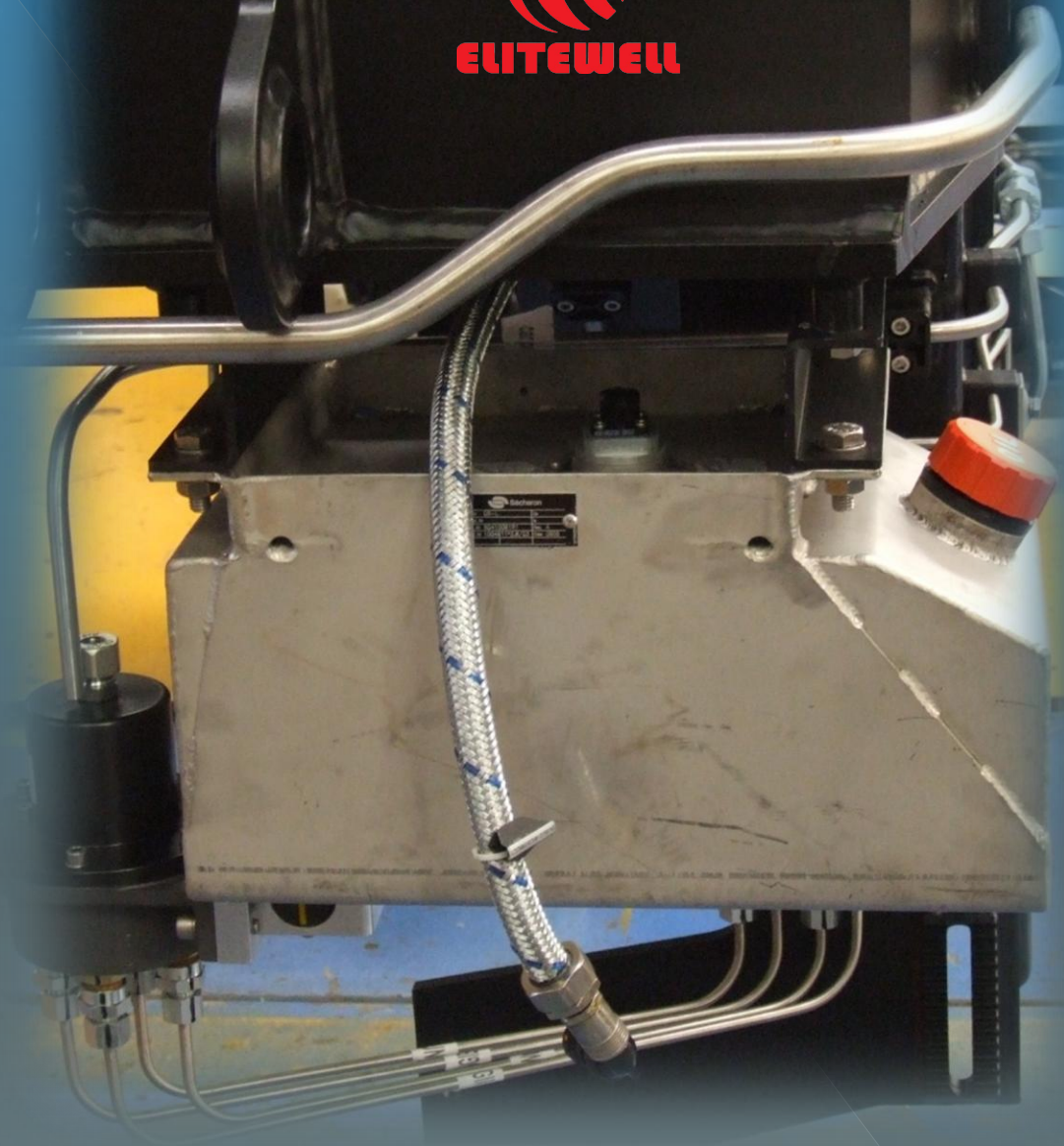


RWP conduits and JAW-FIT SYSTEM fittings





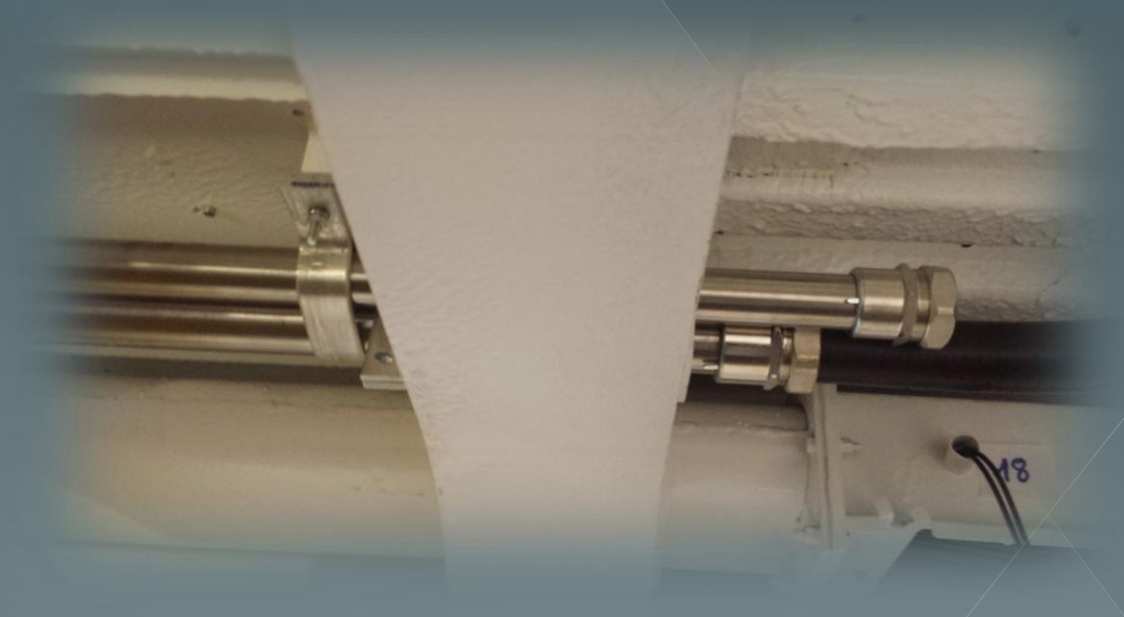
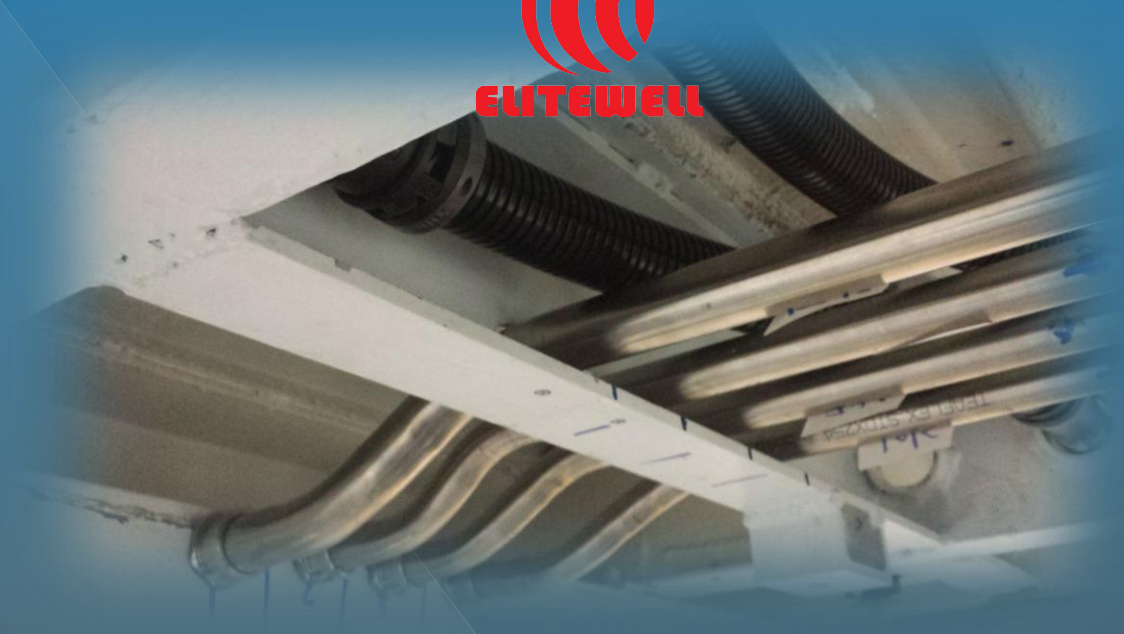
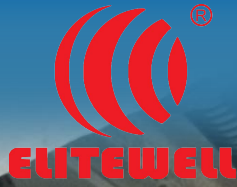
SVPEVAT conduit with CM series fitting

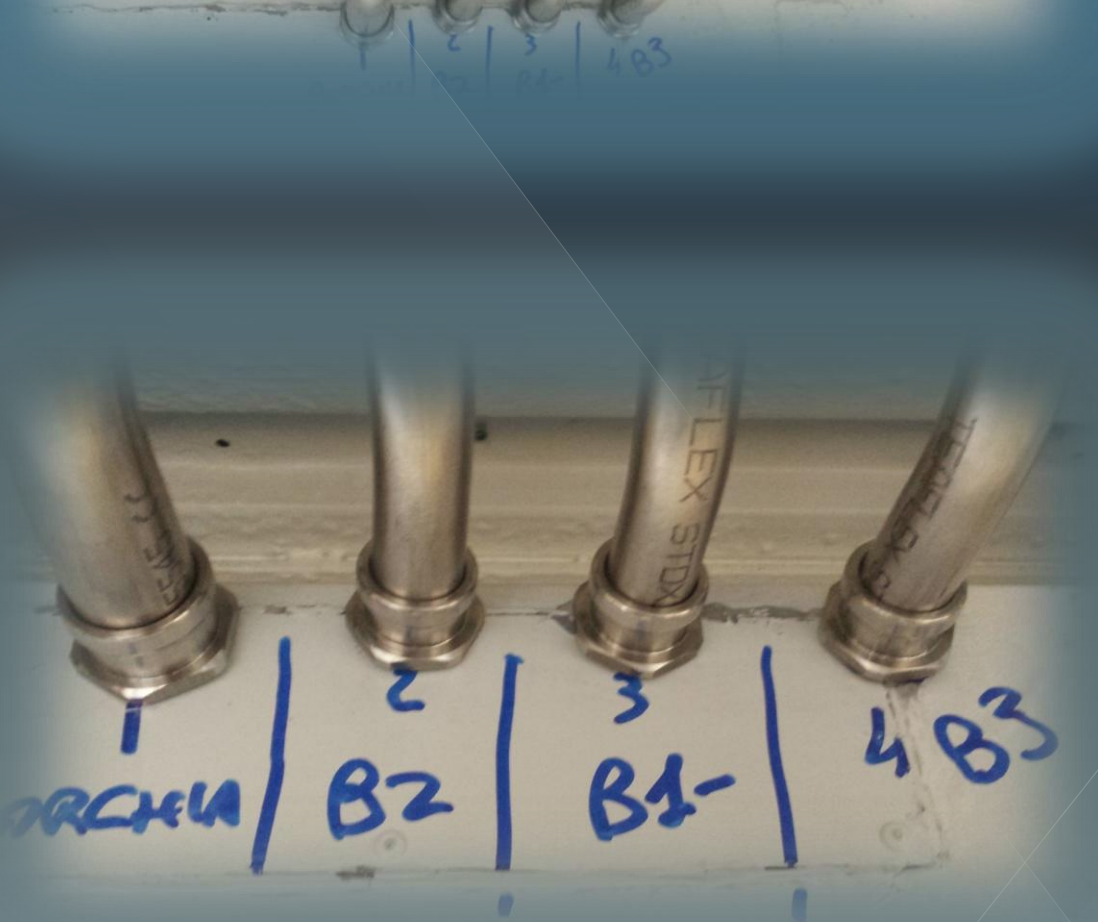
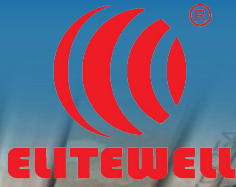


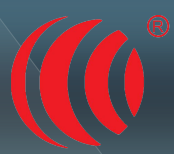


STD STAINLESS STEEL PIPE AND ACCESSORIES



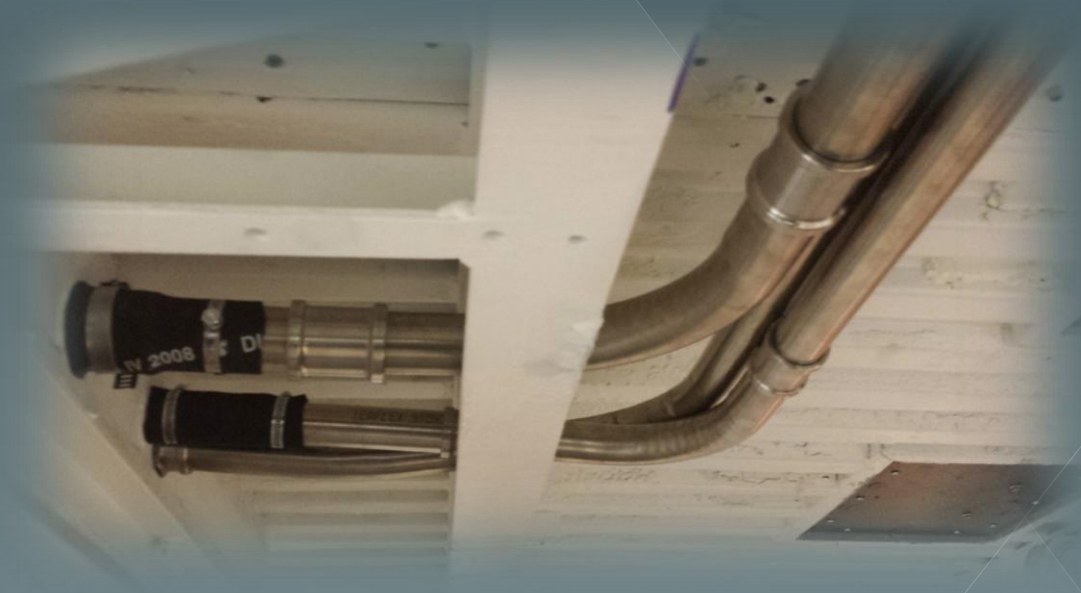






ELITEWELL







LET'S KEEP IN TOUCH

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cs2@elitewell.com.cn