



TW

Dilatacione spojnice za železnicu imaju sledeće funkcije:

- dozvoljavaju pomeranja između ploča,
- omogućavaju drenažu i filtraciju atmosferskih voda,
- daju kontinuitet konstrukcije ploča, sprečavajući prodiranje tucaničkog zastora u dilatacioni zazor,
- sprečavaju prolazak lutajuće struje.

Dilatacije Algfaflex TW za železnice u seizmičkim područjima su odobrene od strane Ferrovie dello Stato i odgovaraju propisanim uslovima.

Opis

ALGAFLEX dilatacije su napravljene od električno neprovodljivih gumenih elemenata, vulkanizovanih preko unutrašnje metalne konstrukcije.

Ova konstrukcija, koja se ponaša kao anker i armatura, je potpuno presvučena gumom.

ALGAFLEX TW elementi su pričvršćeni za ploču hemijskim ankernim zavrtnjima, dozvoljavajući deformaciono pomeranje gumenih slojeva, uključujući i između metalne konstrukcije. Dilatacije se vezuju nastavkom pero-žljeb i zaptivene specijalnim lepkom.

Nepropusno neoprensko platno je oblika grčkog znaka omega i montira se poprečno u odnosu na konstrukciju.

Dilatacija za koju se daje garancija od 10 godina, otporna je na ulja, masti, gorivo, so i pesak. Toplota, izloženost suncu, hladnoća i sneg ne prouzrokuju prevremeno starje.

Pokrivna ploča

Pokrivne ploče za pešačke staze dozvo-



Ijavaju pomeranje duž različitih delova konstrukcije, sprečavaju da tucanički zastor ili strana tela prodruga zazor i garantuje električnu izolaciju. Stoga je moguće saviti pokrivne ploče preko ivičnjaka pešačkih staza.

Kad je kosi ugao veći od 10°, pokrivna ploča može da zameni savijeni deo kraja dilatacije.

The railways expansion joints have the following functions:

- they allow the movements between the decks,
- they permit the drainage and prevent the percolation of the meteoric waters,
- they give a structural continuity to the slabs, avoiding the penetration of the ballast in the gap,
- They prevent the forward of stray electrical currents.

The TW Algfaflex joint for railways in seismic areas, has been ratified by "Ferrovie dello Stato" and complies with the specifications.

Description

The Algfaflex joints are made of dielectric rubber elements, vulcanised to the inner metallic structure.

This structure, which acts as anchor and

reinforcement, is completely covered by the rubber.

The Algfaflex TWelements are restrained to the slabs by chemical anchor bolts, allowing the deformation movement of the rubber layers included between the metallic structures.

The joints are connected by male-female junctions and sealed with special glue.

The dielectric flashing is shaped and is put across all the structure.

The joint, guaranteed for 10 years, is resistant to oils, grease, petrol, salts and sand.

Heat, exposure to the sun, cold, snow do not cause early ageing phenomena.

Coverplate

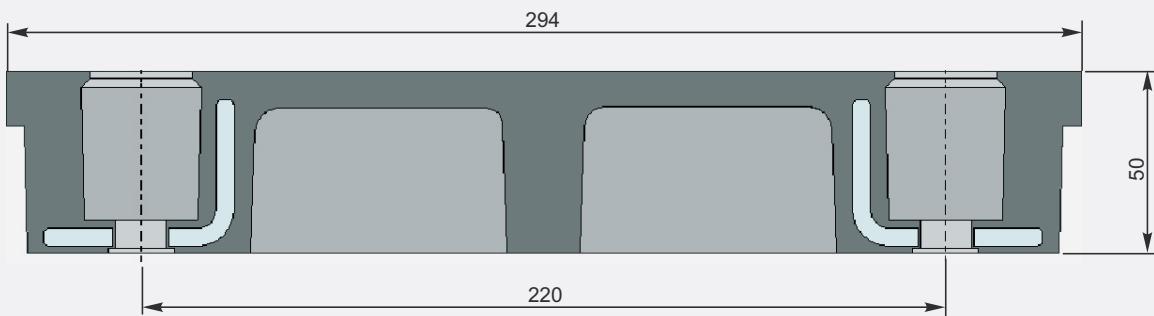
The cover plate for the sidewalks allows the movements among the different parts of the structure; it avoids to ballast or foreign bodies to enter the gap and guarantees the electric isolation.

It is possible, therefore, to bend the cover plate against the kerbs of the sidewalks.

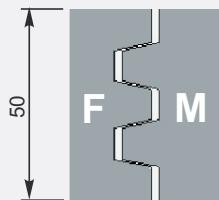
When the skew angle is higher than 10° the cover plates can replace the bended part on the end of the joint.

ALGAFLEX TW 130

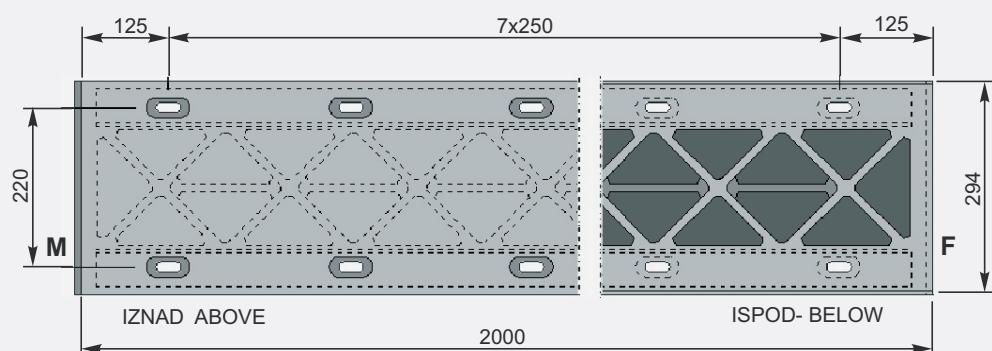
POPREČNI PRESEK - CROSS SECTION



NASTAVAK PERO-ŽLJEB M/F JUNCTION



OSNOVA - PLAN



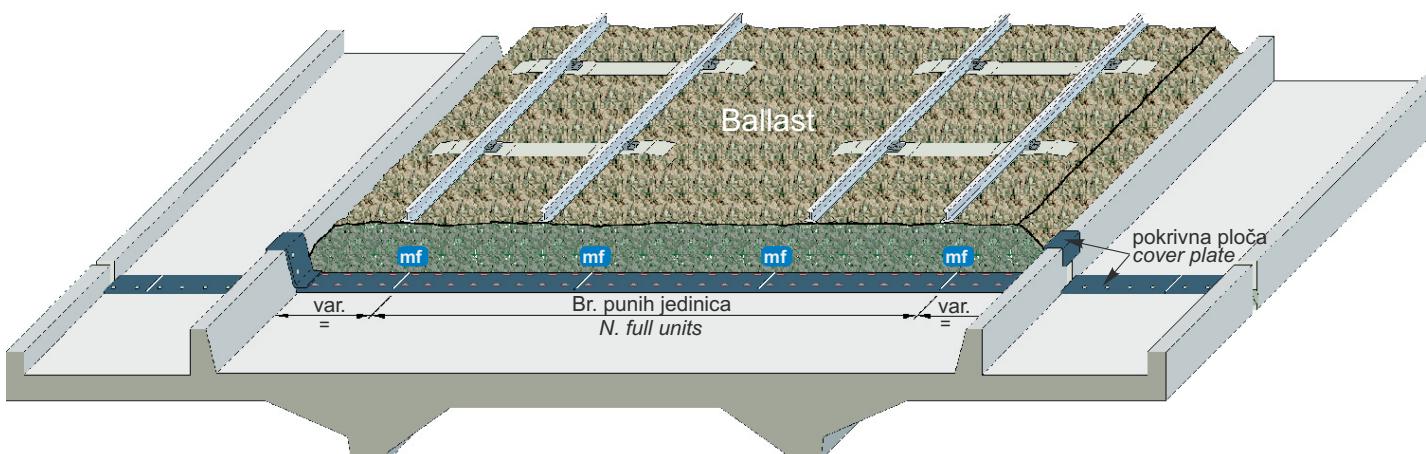
TIPIČNO OPTEREĆENJE - DIJAGRAM DEFLEKCIJE TYPICAL STRAIN-DEFLECTION PLOT



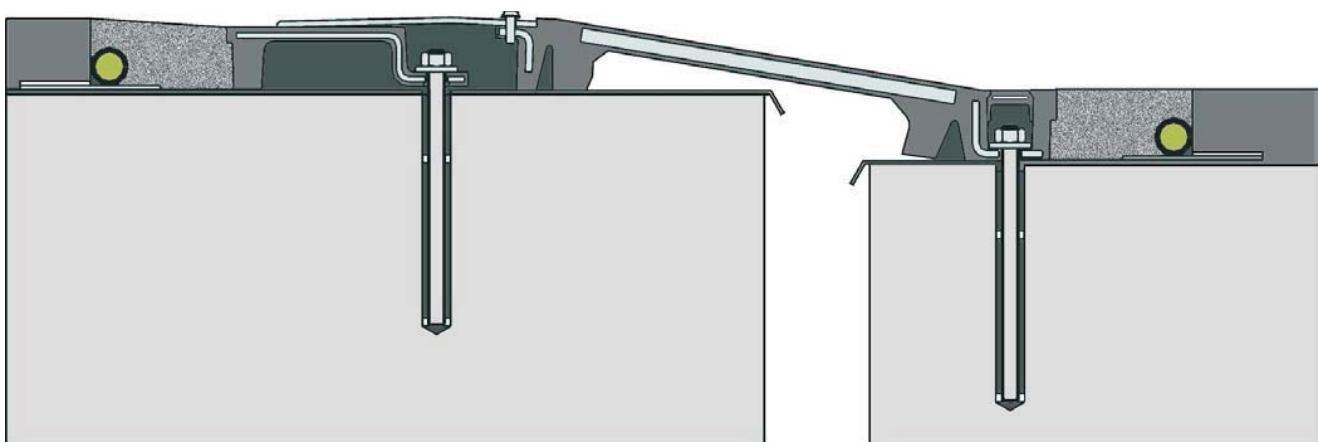
A) Spore deformacije:
Termičke varijacije,
kontrakcije, puženje B
B) Brze deformacije: na osnovu
kočenja i seizmičkih delovanja

A) Slow deformation:
thermic variations, shrinkage,
concrete fluege;
B) Quick deformations due to
braking and seismic events

TIPIČNA MONTAŽA - TYPICAL INSTALLATION

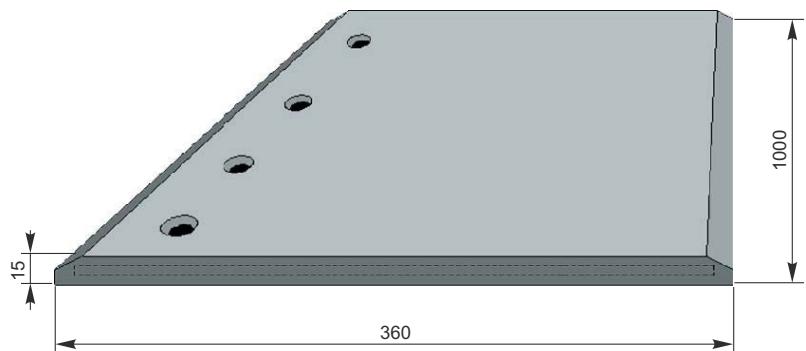


mf m/f junctions sealed with elastic sealant



Apsorpcija vertikalnih pomeranja - Vertical movements assorption

POKRIVNA PLOČA - COVER PLATE

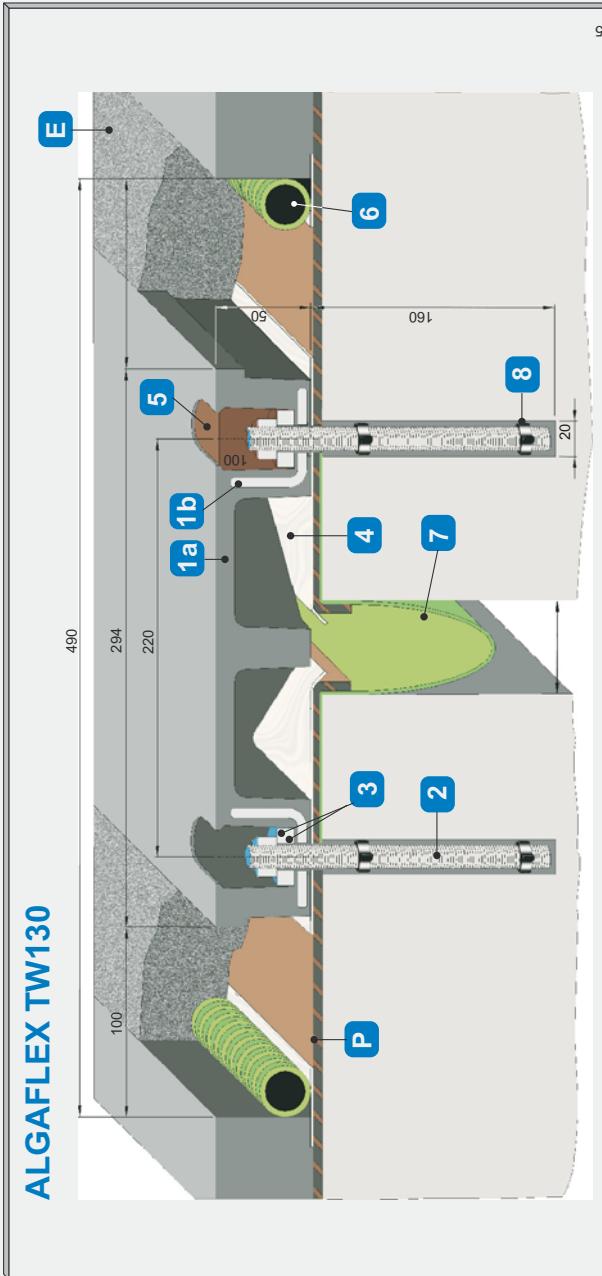


POPREČNI PRESEK - CROSS SECTIONS

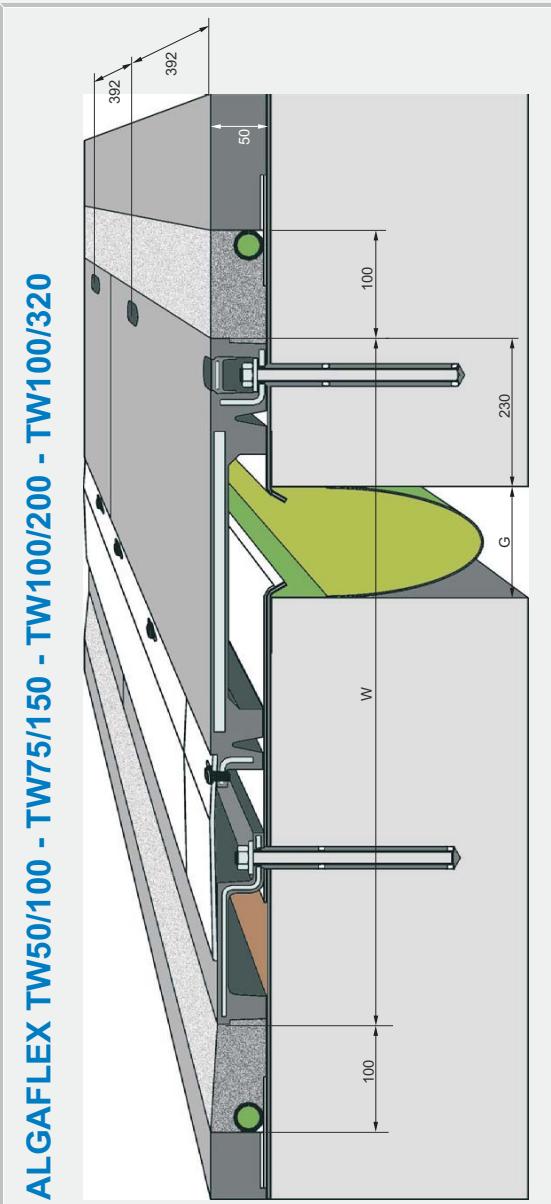
LEGENDA

Pos.	Opis Description	Materijal Material	Standard Štandard
1a	Aligaflex - Guma -Rubber	Dijalektična prirodna guma - Dielectric natural rubber	CNR 100/18
1b	Aligaflex - Armatura -Reinforcing	Čelič S275JR Steel	EN10025
2	Hemski anker Chemical anchorage	Čelič C40 + DACROMET 320 Steel and protection	EN 10083
3	Navrka / Rondelle Podloška / Washers	Cl. 6S / R40 + DACROMET 320 Class and protection	UNI 55688/66592
4	Lim Stainless steel sheet	X5CrNi 18/10	EN 10088
5	Mater za ovalne rupe Oval holes filling	Nesklapljući reoplastični materijal TIGIGROUT 102FR Non shrink rheoplastic fiber-reinforced mortar	
6	Drenažna cev Drain pipe	Plastična drenažna cev sa pokrivena geotekstilom PVC stuff with holes covered by not woven fabric	
7	Dielektrično platno Dielectrical flashing	Hyalon	
8	Centrirajući prsten Centering ring	Polipropilen - Polypropylene	
E	Epoksi za prelazne trake Black epoxy transition strip		
P	Postoljčja vodonepropusnost Existing waterproofing		

Tip Type	String Width W	Zazor Gap G
TW50/100	55±50	70±50
TW75/150	685±75	100±75
TW100/200	805±100	120±100
TW100/320	1105±160	180±160



ALGAFLEX TW50/100 - TW75/150 - TW100/200 - TW100/320





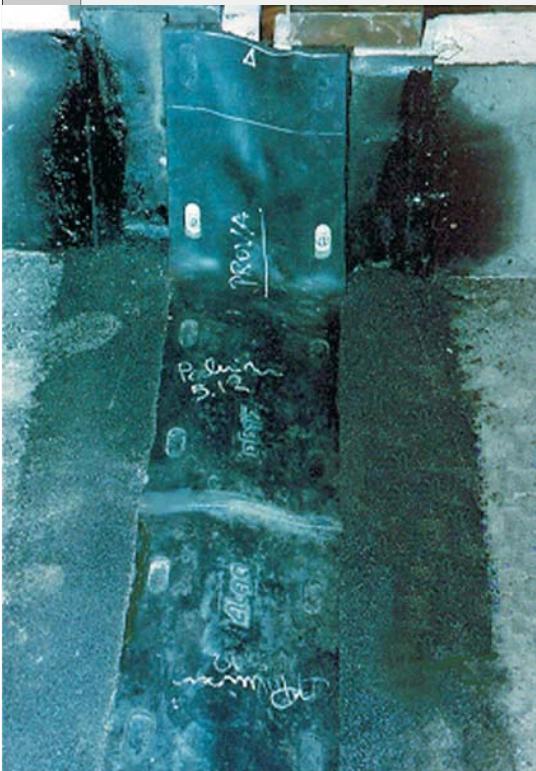
APPARECCHI D'APPOGGIO E GIUNTI DI DILATAZIONE - DISPOSITIVI ANTISISMICI
POST TENSIONE - STRALLI E TECNOLOGIE SPECIALI PER LE COSTRUZIONI
BRIDGE BEARINGS AND EXPANSION JOINTS - ANTISEISMIC DEVICES - POST-TENSION - STAY CABLES - ADVANCED TECHNOLOGIES FOR CONSTRUCTION

ALGA SPA - VIA OLONA 12 - 20123 MILANO - TEL. +39 02 48569.1 - FAX +39 02 48569.245 - HTTP://WWW.ALGA.IT

GARANCIJA KVALITETA - QUALITY ASSURANCE

Alga projektuje i proizvodi u skladu sa UNI EN ISO 9001:94 izdatim od strane IGQ.

Alga plans and produces with Quality System, complying with UNI EN ISO 9001:94 certified from IGQ.



Slika levo: Test podizanja ploče do maksimalne dozvoljene vrednosti, za zamenu ležista.

Slika desno: Oleodinamička oprema za testiranje rezervoara, gde su neka testiranja izvedena na zahteve Ferrovie dello Stato.

On the left: Deck lifting test, to the maximum allowed value, for the bearings replacement.

On the right: The oleodynamic equipment to operate the test tank, where some tests have been carried out following the Ferrovie dello Stato requests.

Uređaj za testiranje sa hidrauličkim presama napravljen je u našoj laboratoriji za ispitivanje kvaliteta, a u cilju ispitivanja Algaplex dilatacija. Na ovom uređaju obavljena su testiranja:

- **Podizanje** kako bi se simuliralo podizanje ploče.
- **Ciklični test** otvaranja i zatvaranja dilatacije sa i bez opterećenja do predviđene vrednosti do minimalnog i maksimalnog pomeranja.
- **Hidraulični test** se izvodi po testu pomeranja.

Fizičko-mehanički dielektrički testovi izvode se u institutu -CERISIE u S. Giulijanu kod Milana.

Dinamički testovi su izvođeni u ISMES u Seriateu kod Bergama.

Svi testovi se izvode u prisustvu FS inspektora.

A test tank, working with hydraulic jacks, has been built in our Quality Laboratory in order to test the Algaplex TW joints.

In this test tank, some test have been executed:

- **Lifting** to simulate the deck lifting
- **Cyclic tests** of opening and closing of the joint, with and without overload, up to the min and max movement foreseen.
- **Hydraulic tests** carried out after the movement tests.

The physical-mechanical and dielectric tests have been carried out at Istituto CERISIE in S. Giuliano, (MI).

The dynamical tests have been carried out at ISMES in Seriate, (BG).

All the tests have been carried out in the presence of FS inspectors.



FIZIČKE OSOBINE - PHYSICAL PROPERTIES

Polimer -Polymer :	Dielektrična guma - Dielectric rubber	CNR 10018-87
Čvrstoća -Hardness	60 ± 5 Shore A	UNI 4916
Zatezna čvrstoća - Tensile strength	21 N/mm ²	UNI 6065
Izduženje kod prekida - Ultim. elongation	490 %	UNI 6065
Električna otpornost - Electrical resistance	2.5 M	
Armurni čelik - Reinforcing steel	S275 JR	EN10025