



**CELPI**

CELEBI PLASTIK San. ve Tic. Ltd. Şti

Ahmet ÇELEBİ, one of the founders of our company, introduced our company to the plastic sector in 1960 with the plastic machines workshop he opened in İstanbul Bayrampaşa. He entered the sector founding Anadolu Kablo Koll. Şti. as well as manufacturing plastic extruder machines, moulds using his experience, knowledge and skills he gained in accordance with the conditions of our country and the foreign institutions.

At the beginning of 1990s, the title of Anadolu Kablo Koll. Şti. was changed and it was registered as ÇELPİ ÇELEBİ PLASTİK and ÇELMAK ÇELEBİ MAKİNE and it continued make investments, to broaden the product range, and enlarge the closed areas with "Quality, innovation and reliability" principle.

Çelpi has reached high amounts in the annual prouction, customer satisfaction and more qualified product range through the years by working together with its fast-tempo, systematic and experienced personnel gelişen.

Our company has taken big steps to institutionalize since its foundation. Our company acts in order to realize the customer demands and expectations and to provide their continuity making use of the developing technology and knowledge, considering its ideals to contribute to the country economy with healthy, high quality and reliable original products, and to create solutions using knowledge in the trainings of the employees.

Çelpi aims to meet the growing market needs with its environment-friendly technology, and it continues to make investment in human and future. Our aim is to obtain and apply quality above the current

Turkey conditions and norms. And it is our principle to introduce our innovations to the plastic market fast and economically. Our main goal is not only to be in plastic production in Turkey bur also to be among the world companies with our dynamic staff, and to apply the obtained knowledge and technology at the right place and to keep our quality of the highest level.



Plastic that is part of our lives in this century keeps its place in our lives and as it is used instead of unnecessary material consumption in our industries, it has an important role for environment protection. Our Plastic Extruder lines are generally made in Europe, and we continue our production with our "quality and reliability" principle and integrating with the technical personnel, and maintain the customer satisfaction.

Extruder groups, moulds and calibrators that manufacture some of Çelpi products are produced at high-technology Universal "Wire erosion, CNC, Elektro erosion" workbenches by the experienced personnel working in machine and mould facility of our plant, and the machine and mould desing belong to us.



Çelpi continues its R&D studies in its modern facilities founded on 10.000 m<sup>2</sup> closed area, and serves successully in AUTOMOTIVE, CONSTRUCTION, DECORATION, FURNITURE; TEXTILE, PRIVATE SECTORAL profiles, protects the consumer rights and believes that he will also succeed in the permanency of these services. These are for keeping our name not only in our country but also on abroad for long years and for causing our country to have a voice in this sector.

**Correct life is quality, and the quality is ÇELPİ, it has no alternative.**

## • PVC WATER STOPS •

Çelpi PVC Water Stop Bands are produced by melting and shaping the mixtures of Polyvinylchloride (PVC) resin, Stabilizant, Plasticizer and Antioxidant dyestuffs at the appropriate temperature and pressure in Extruders in its own plant, and in accordance with TS 3078, ASTM, DIN, BS standards, DSI technical specifications, and special specifications and requests.



### Technical Specifications;

Quality control and experiments of Çelpi PVC Water Stop Bands Are made in fully-equipped laboratories by the experienced personnel in the plant.

Density	1.27 ( $\pm 0.04$ )g/cm <sup>3</sup>
Hardness (23 $\pm$ 1 °C)	75 ( $\pm$ 5) Shore A
Tensile strength	min 120 kgf/cm <sup>2</sup> average 140 kgf/cm <sup>2</sup>
Elongation ratio	min % 200 average %225
Water absorption	max % 1.5 (by weight)
Ash content	max % 5 (by weight)
Tear resistance	18 N/mm
Service temperature	(-35 °C / 35 °C)



### Areas of Usage;

PVC Water Stop Bands are used in order to provide water impermeability in expansion, contraction joints seen in concrete structures exposed to high and low water pressure and to reduce the possible vibrations in concrete block, and to prevent the deformations.

- Dams,
- Tunnels,
- Bridges,
- Viaducts,
- Pools,
- Treatment Facilities,
- Water Containers
- Irrigation Channels,
- Industrial Structures,
- Subways,
- Regulators,
- Hydroelectric Central,
- Thermal Power Plants,
- Docks.



## • PVC WATER STOPS •

### Size Selection;

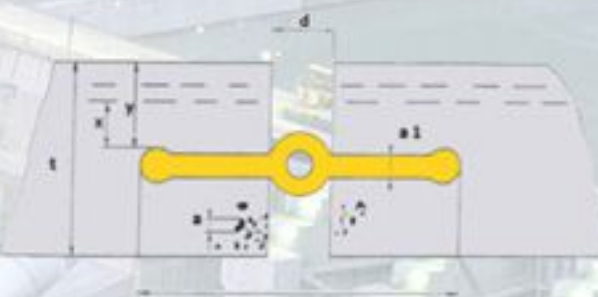
After selection an appropriate band type in accordance with the explanations in type selection, the following points should be considered in selection the size of the type to be used in joints;

- Concrete construction,
- Concrete thickness,
- Joint width,
- Size degree of the behaviours of the joint such as expansion, contraction, settlement,
- Water pressure level.

In the places where there is a high risk of earthquake, where the behaviours of the joints such as expansion, contraction, settlement are excessive and/or where the water pressure is high, the types with more wall thickness should be used.

While selecting the width section length of water stop band, the formulas below should be provided;

L should be  $< T$ ,  
L should  $> 6a + d$ ,  
y should  $> L - d/2$ ,  
x should  $> 2a$ .



x = the length of PVC plastic water stop bant to the closest appliance steel (mm),  
L = with section length of PVC plastic water stop band (mm),  
t = concrete thickness (mm),  
a = the largest aggregate grain diameter (mm)  
d = joint distance (mm),  
y = the length of PVC plastic water stop band to the concrete surface (mm).

To give a general idea, the recommended width section length and wall thickness of the band in accordance with the various concrete thicknesses are shown below;

Concrete Thickness	Band With Section Length	Band Wall Thickness
t (cm)	L (mm)	a1 (mm) (min.)
20	100	3
20-40	150	4
35-50	200	4
40-60	250	4
50-70	300	4
60-80	350	4
80-100	400	6
100 >	500	8

## • PVC WATER STOPS •

### Type Selection;

It is necessary to leave joints at some points of concrete and reinforced concrete structures. The joints left at some parts in order to prevent the damage that may arise in the structure due to expansion and collapse in reinforced concrete construction elements are defined as **expansion joint**. It is necessary to leave expansion joint in order to prevent the deformation that may arise due to the decrease in the volume from damaging the structure when the cement used in the structure completes its turnout.

As it is known, the expansion elongation behaviorus in the constructions are too big and continuous behaviorus to neglect. On the other hand, the joints that are left where the pouring of concrete is stopped for a while and then restarted and that are arranged vertically in the direction of pressure stres are defined as **construction joint**.

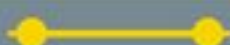





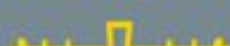

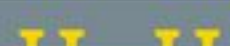

In the selection of PVC Water Stop band used in concrete work, it should be determined whether the movement transfers should be prevented or an application where the both features are predominant should be implemented if there is not water isolation in the joint. there fore; if the structure should be used **on the surfaces of the concrete that come into contact with water** so that they prevent water from penetrating into joints.

If there is not pressurize ground water and the transfer of the dynamic movements in the joints are to be prevented, then central type PVC Water Stop Bands used at the center of the concrete section can be used.

If the structure is on seismic belts or if it is built where the collapse is very likely to occur, then the band types that can compensate the excessive stres and that are resistant to crosswise stress should be selected.

Depending on some parameters in expansion joints, the joint intervals should be between 18 mm and 50 mm. Appropriate joint filters, various joint closing plastic profiles, alternatively (mastic, sand, xps) in some cases can be preferred to protect the material inside the joint and the joint on the visible surface of the joint or on the surfaca where there is not PVC Water Stop Band.

PVC Water Stop Band types and their places of use are shown in the table below;

PVC Water Stop Bant Type	Joint / Application	Joint Types at the Places of Use and Explanations
B 	Contraction / Central	At fixed and non-expanded construction joints and contraction joints at low and high water pressure.
I 	Contraction / Central	At fixed and non-expanded construction joints and contraction joints at low and high water pressure.
V 	Contraction / Central	At construction, contraction joints and at the joints that have slight expansion, at high water pressure.
A 	Expansion / Central	At low, medium and high-degree expansion joints, at shshearing behaviours and at any water pressure.
O 	Expansion / Central	At low, medium and high-degree expansion joints, at shshearing behaviours and at any water pressure.
OL 	Expansion / Central	At low, medium and high-degree expansion joints, at shshearing behaviours and at any water pressure.
M 	Expansion / Central	At the high-degree expansion joints, at shearing behaviours and at high water pressure, at the structures where the collapses are excessive.
YO 	Expansion / Flooring	At expansion joints at medium expansions or at shearing behaviours, at low water pressure
Y 	Contraction / Flooring	At construction joints and contraction joints, at low water pressure
YI 	Contraction / Flooring	At construction joints and contraction joints, at low water pressure

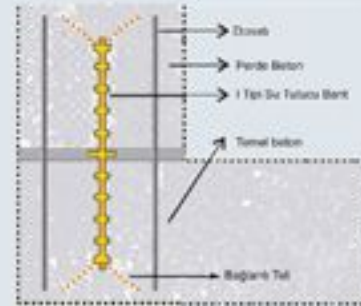
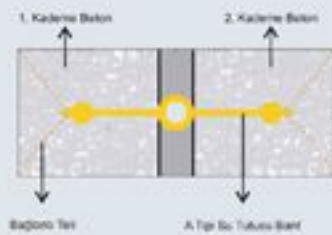
## • PVC WATER STOPS •

### Application;

PVC water stop bands are applied in two-stage concrete casting. Cross joint mould made for casting first stage concrete should have two parts and the water stop band should be placed between two-part mould. The part that will stay in second stage concrete should not be turned towards inside of the first stage concrete.

PVC Water Stop band should be covered well by the concrete for a complete water impermeability. There should not be air gap around PVC Water Stop band, the concrete should be poured gradually and a good vibration should be provided. There should not be foreign substances on PVC Water Stop band such as soil, dust. Otherwise, the adherence of the band with concrete weakens. It should be checked whether there is foreign substance on the band or on its wings, it should be cleaned by cloth or brush if necessary.

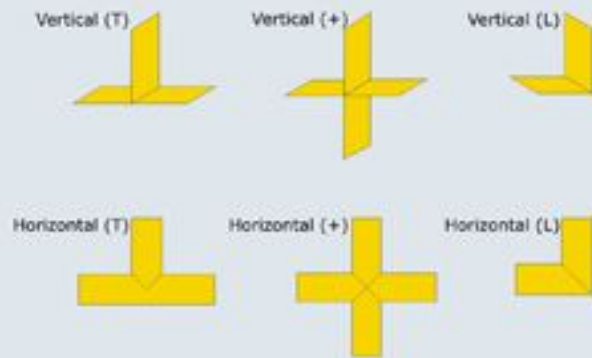
Çelpi PVC Water Stop bands are produced with holes and staples at 50 cm intervals on both sides in order to provide ease of assembly for reinforcement. The bands should be stapled tightly to the reinforcement through hook holes. The applications that demolish the band and remove the water impermeability property of it such as nailing, wire fitting by piercing PVC Water Stop bands should not be allowed.



### Welding;

As PVC Water Stop bands are made of thermoplastic material, they are joined by hot welding system. Flaming equipment (flame gun etc), adhesives that do not comply with the material are not used.






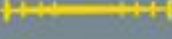


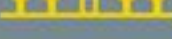
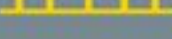
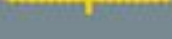
Some apparatuses are needed for making butt-welding and special butt-welding parts of Çelpi PVC Water Stop bands. Wood or aluminium mould, thermostatic heater soldering iron, sharp knife, wire brush, hot air blower, and if requested eheater soldering iron, special butt weld parts and apparatuses are produced and made available in our factory according to the order.



- \* Opposing ends of the bands to be welded should be cut smoothly by a sharp knife
- \* Both parts should be placed in wood or aluminium mould, if any, or their facades should completely come in contact with each other on a smooth ground.
- \* The temperature of a heater soldering iron that is put between two bands and the surface of which is well cleaned should be approximately between 150-180 °C
- \* Welding soldering iron that reaches to the appropriate temperature is put between facades of two bands to be welded and it should be waited until the ends of both parts melt.
- \* After the soldering iron is removed, the opposing ends should be adhered well and smoothly
- \* After the welding is completed, the welded place should be cooled and excessive solution should be removed
- \* The material should not be burned (carbonized), burned material can not be welded
- \* If these are made in a closed area, the area should be well-ventilated and an appropriate gas mask should be used



## • PVC SU TUTUCU BANT & PVC WATER STOPS •

Tip / type		Genişlik / Width (cm)	15	15	15	20	20	20	23	25	25	25	30
A		Kalınlık / Thickness (mm)	5	7	10	5	7	10	10	6	8	10	6
Tip / type		Genişlik / Width (cm)	15	15	15	20	20	20	23	25	25	25	30
B		Kalınlık / Thickness (mm)	5	7	10	5	6	10	10	5	6	8	10
Tip / type		Genişlik / Width (cm)	15	15	15	20	20	20	25	25	25	25	30
I		Kalınlık / Thickness (mm)	3	4	5	4	5	6	4	5	6	8	6
Tip / type		Genişlik / Width (cm)	20	22	25	25	25	30	30	32	32	35	
OL		Kalınlık / Thickness (mm)	5	4	5	6	8	7	10	5	8	8	
Tip / type		Genişlik / Width (cm)	20	20	20	25	25	25	30	30			
M		Kalınlık / Thickness (mm)	4	5	6	5	6	8	10	6	7		
Tip / type		Genişlik / Width (cm)	15	15	15	20	20	20	25	25			
V		Kalınlık / Thickness (mm)	3	4	5	4	5	6	4	5			
Tip / type		Genişlik / Width (cm)	15	15	20	20	22	22	25	26	26	30	32
O		Kalınlık / Thickness (mm)	3	4	4	5	4	5	5	4	5	6	5
Tip / type		Genişlik / Width (cm)	20	20	25	25	25						
Y		Kalınlık / Thickness (mm)	4	5	5	6	8						
Tip / type		Genişlik / Width (cm)	19	20	20	25	25	25					
YO		Kalınlık / Thickness (mm)	4	4	5	5	6	8					
Tip / type		Genişlik / Width (cm)	18	20	20	25	25	25					
YI		Kalınlık / Thickness (mm)	4	4	5	5	6	8					
Tip / type		Genişlik / Width (cm)	20	20	20	24	24	24					
AK		Kalınlık / Thickness (mm)	3	4	5	3	4	5					

\* Ölçüler, Ağırlıklar + % 3-5 toleranslıdır" & "Size , Weights have + %3-5"

**TS 3078 Standartlarına göre** tabloda bulunmayan veya özel istenen PVC Su Tutucu bant tiplerinin kalıpları, fabrikamız içerisinde bulunan günümüzün son teknolojisel donatılmış kalıphanemizde konusunda deneyimli personeller tarafından en kısa zamanda hazırlanarak üretime hazır hale getirilmektedir.

PVC Su Tutucu bantların **kangal boyları** firmamızın belirlemiş olduğu standart boyları haricinde, **işçiliğini ve kaynak risklerini azaltmak** için müşterinin talebine göre de üretilmektedir. PVC Su Bantların **depolanması** genelde **kapalı alanlarda** olmalı, dış hava şartlarına maruz bırakılmamalıdır. Yağlı ve bitüm özellikli mabzemelerle temas ettirmememelidir.

The moulds of the PVC Water Stop Bands that are not included in the table or that are requested specially are prepared in our moulding room that is equipped in accordance with the latest technology by the experienced personnel in the shortest time. **Coil lengths** of PVC Water Stop bands can be produced according to the customer demands **in order to reduce the workmanship and welding risks** as well as the standard lengths determined by our company.

The storage of PVC Water Stop bands should be in **closed areas**, and they should not be exposed to the exterior weather conditions. They should not come into contact with greasy and bituminous materials.

## REFERANSLARIMIZDAN BAZILARI SOME OF OUR REFERANCE

DERINER BARAJI / ARTVIN

KANDIL BARAJI EKINOZU / K.MARAŞ

KIGI BARAJI / ELAZIĞ

ARTVIN BARAJI / ARTVIN

BOĞAZ TÜP GEÇİŞ AVRASYA TUNEL / IST

MAHMUTBEY MECIDIYEKOY METROSU / IST

KADIKOY KARTAL METROSU / IST

KAĞITHANE DOLMABAĞCE TUNEL / IST

MARMARAY / IST

KARS TIFLIS DEMIRYOLU / KARS

ANKARA SIVAS DEMIRYOLU / YOZGAT

BAFRA SOL SAHIL SULAMA / SAMSUN

MAVI TUNEL PROJE / KONYA

ATAKOY ARITMA / IST

AMBARLI ARITMA / IST

B.ÇEKMECE ARITMA / IST

TUZLA ATIKSU ARITMA / IST

RRESHEN KALIMASH OTOYOLU / ARNAVUTLUK

3.BOGAZ KOPRU KUZEY MARMARA OTOYOLU / IST

PI MAKINA - ERG INŞ.

ENERJISA - YUKSEL INŞ.

OZALTIN INŞ.

DOĞUŞ INŞ.

YAPI MERKEZI - SK E&C

GULERMAK - KOLIN - KALYON

AVRASYA METRO GRUBU

KISKA - MAKYOL INŞ

TAISEI CO.

BAYÇEL GROUP

CENGİZ - MAPA - KOLIN - LIMAK

AYDINER INŞ.

ILCI INŞ.

LIDYA - KALYON

ALKE - FABER

KUZU INŞ.

ALSIM ALARKO

BECHTEL - ENKA

ICA ICTAŞ - ASTALDI



## UYGULAMALAR / APPLICATIONS



## HATALI UYGULAMALAR / WRONG APPLICATIONS



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