











Shahen Aghamal
Founder & Prosident

INTRODUCTION

After years of serving GCC market through our representatives now Pozzolan International FZC has settled in Hamriyah Free Zone Sharjah and is in operation.

As Pozzolan's founder, I believe a UAE manufacturing facility would enable us to better serve clients.

Throughout my years of experience in different fileds related to construction and civil works I have witnessed the vitality of correct positioning of rebar in locations specified on the execution plans in reinforced concrete structures to maintain the good quality and strength of reinforced concrete which I describe briefly as follows:

"In many developed countries, especially in Europe, it has been known for a number of years that the thickness of the concrete cover guarantees the durability of the reinforced concrete structure, and is considered to be a major factor in preventing corrosion of the rebar. Hence, since 1909 in Europe, with the collaboration of various manufacturers, the University of Essen, Specialist Institute of Precast Concrete Units of Germany and Steel Reinforcement institute have worked towards authorizing the use of plastic spacers of various shapes, according to DIN 1045 standard specification."

Having the above in mind Pozzolan is manufacturing a variety of 250 types of spacers and accessories, enabling the company to gain the confidence and trust of many industry owners and engineers especially in Afghanistan, Andora, America, Iraq, Kuwait, Qatar, Oman, Saudi Arabia, Sri Lanka, United Arab Emirates, and Venezuela.

And now Pozzolan International has set its sights on becoming a key player in the UAE in the manufacturing and export of plastic spacers for reinforced concrete cover and supporting parts.



International FZC

A significant achievement for Pozzolan was to obtain the ISO 9001:2008 standard certificate with an objective to gain customers attention and to fulfill their essential requirements. Also, a customer care management which resulted in obtaining ISO 10002:2004 standard certificate are tiny examples of the steps which we take to ensure our customers are satisfied with our delivered services.

The company's products have been assessed and deemed to comply with the requirements of CE in accordance with DIN 1045 standard related to construction materials. The relevant certificate has been issued in May 2015 approving Pozzolan as a reliable and credible manufacturer of plastic spacers for reinforced concrete cover.

Many of Pozzolan Customers are among leading international construction companies such as Orascom Construction Industries, Tecnimont, Samsung Engineering, Arc Line and Borouge etc...

We have always placed our customers foremost in our minds and constantly ask ourselves how we can improve the efficiency of our products.

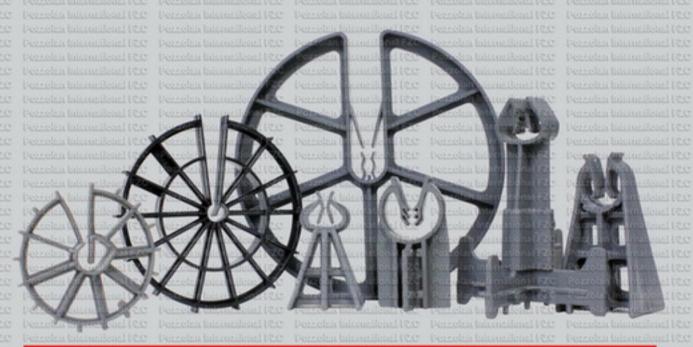
Pozzolan International is keen to set a framework to get closer to its clients and fulfill the rising demand in the GCC and the Middle East and North Africa markets through quality items, available stock, and on time and quick delivery.











Design makes Pozzolan Plastic Spacers a hit.

Quality . Strength . Reliability







Registration Certificate

Issued to

Pozzolan International FZC

Carried out at following site:

P.O.BOX: 53374 HFZA, SHJ, UAE

for their

QUALITY MANAGEMENT SYSTEM

Scope of Activities covered by this Registration:

Manufacture Plastic Spacers for Reinforced Concrete Cover

REGISTRATION NO. : 10480

ISSUED ON : 13/03/2015 1st Surveillance Due ON: 13/02/2016 VALIDITY DATE : 12/03/2018 2nd Surveillance Due ON: 13/02/2017

SUBJECT MUST BE SUCCESSFUL IN SURVEILLANCE AUDIT

FOR VALID OF CERTIFICATION





www.zhikcert.com





Registration Certificate

Issued to

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Carried out at following site:

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Quality management -- Customer satisfaction Guidelines for complaints handling in organizations

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FOR VALID OF CERTIFICATION



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HEAVY DUTY & SUPER GRIP CHAIR SPACERS WITH CLIP For Foundation & Beam





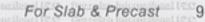


















SEESAW, COMPOSITE & LINEAR CHAIR SPACERS









STYRO, WITHOUT CLIP & PAD FIX CHAIR SPACERS

For Styrofoam & Slabs











ARCH DOUBLE REBAR, POST TENSION CHAIR AND ROUND FIX SPACERS









STOOL & EIFEL DOUBLE REBAR CHAIR SPACERS

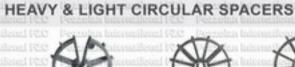
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CONES, SLEEVE and CONES & CONICALS









SEALING MIDDLE BOLT

For Formwork Spacers













Plastic Spacers For Reinforced Concrete Cover

Quality . Strength . Reliability POZZOLAN International FZC



Picture index

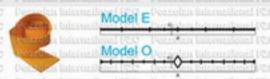
PLASTIC STRAND & ROCK ANCHOR BOLT & LANTERN SPACERS For Separating Rebars & Nail (Centralizing) 20-21

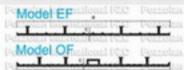


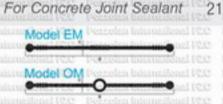




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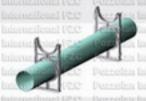


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PVC PIPE SPACERS







TRAVERSE ROLL PLUG , INSERT & SMALL SOCKET



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SEALANT FOAM TAPE & HASP TAPE FOAM



For Formwork & Tie Up Rebar



CHAMFERS, TIE WIRE & HOOK















HEAVY DUTY CHAIR SPACER WITH CLIP



Various Types of these spacers are made of strong and durable plastic material that can support a spot load of 100kg, in reference to the compression test certificate S/No. M88103011, dated 31 Jan 2010, Amirkabir University of Technology, Tehran-Iran. It has desirable stability and is adjusted to rebar diameters of up to 32 mm. Most of these spacers are used in heavy rebar cages. Spacers: F130, F131 and F132 are used in slabs, beams etc...







and F108 and F112 in foundations.



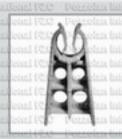






F108 F109 F112 F131 30/8-25 8-25 500 9.570 30 mm 500 F132 40/8-25 40 mm 8-25 11.200 50/12-32 500 13.400 F109 75/12-32 75 mm 9,000 F112 14.000

SUPER GRIP SPACERS WITH CLIP



Super grip is a strong clip-on spacer used in heavy duty applications, such as foundations and base plate construction. It firmly clamps reinforcement bars up to 32 mm diameter and avoids bar movement. They offer more advantage over lighter duty spacers and are less used in quantity making the cages more secure. They may be used either horizontally or vertically. Spacers: F137, F138, F106 and F139 are used in slabs, and beams etc. F111 is used in foundations.



Note: F139 can be used in foundation as well.













description (because)	Other Description	Andrews Change Lift Ch. Donney Long	Indoorge Done I draw 11	on and our list or our thoras	Design - Donnardon Info
ode	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
137 []	25/8-22	Intermile 25 mm Decretor	8-22 mm e	1000	TCC (7.000
138	30/8-22	Independed 30 mm (Secretary	8-22 mm	corredon (a500 miletar)	8.500
106	40/8-22	Interestina 40 mm percelan	8-22 mm	500	10.780
139	50/8-25	Information 50 mm	8-25 mm	500	11.200
140	60/8-25	60 mm	8-25 mm	500	18.150



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SEESAW CHAIR SPACERS WITH CLIP



The lower part of this spacer is made in such a way that when placed on the formwork it moves like a seesaw. When rebar is placed inside the spacer, after concrete is poured, no trace is visible due to the fact that the spacer stands on three points. These spacers are usually used for precast parts on composite slabs with light network rebars.











-	Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
220	F100	15/6 - 12	15 mm Ferrelan	6-12 mm	3000	13.700
-20	F102	25/6 - 12	contiles 25 mm Perrelate	6-12 mm	2000	15.530
	F103	30/6 - 12	aturilea 30 mm Perrelas	6-12 mm	2000	16.750
	F105	40/6 - 12	consider 40 mm Ferrelm	6-12 mm	1500	12.900

COMPOSITE CHAIR SPACERS



These general purpose clip-on spacers are mostly used in precast yards, composite slabs and base plate woven with light rebars

Refer to pages 13 & 14 for installation procedure



Code	Poz Reference ational EZCo	oncrete Cover	For Steel Diameter	Packing Qty	Pozzo Weight (Kg)
F115	Perca15/6 × 16 mileant (CC)	15 mm	leand 17.6-16 mm data lade	3000	Percelos Int9.15 lienal
E116	Per 206 - 16 milean ICC	20 mm (marcon)	6-16 mm	2000	Decreta Int7.75 den-
E117	Fee: 25/6 - 16 mile of FCC	25 mm	lead 12.6-16 mm last late	2000	Percelon h14.15 denni
F118	Pers 30/6 x 16 anilean 12.0	30 mm is belowed	[can] (2.6-16 mm lm lade	2000	Decreba h16.15 lear!
F119	per 35/6 - 16 attend to 0	35 mm Indoor	leand to 6-16 mm and balo	2000	Dezaelas h17:15 lessal
F120	(201-40/6 - 16 milean) (2.0	40 mm is befores	6-16 mm len belo	1500	Feerelm 13.20 lene
F121	per 50/6 - 16 effect (CC	50 mm	leant (* 6-16 mm in his	1000	Decreion in 11.15 densit
F122	per 60/6 - 16 miles 100	60 mm	6-16 mm	500	Decreeding to 6.15 ten-
F123	70/6 - 16	70 mm	6-16 mm	500	persolan in 7.65 densit
F124	150 75/6 - 16 House (#C	75 mm	6-16 mm	500	10.40



LINEAR CHAIR SPACERS



Pozzolan's antirust margin Linear Chair Spacers with clip are applied horizontally and vertically. They are suitable for serial laying. Desired length may be obtained by joining them together. In vertical applications Pozzolan's Linear Chair Spacers prevent to fall down by being hanged to the steel bars. The general dimensions are 500mm long and 50mm wide.



Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
L15	15/500	15 mm	Free	100	6
L 20	20/500	20 mm	Free	100	6.5
L 25	25/500	25 mm	Free	100	7.3
L 30	30/500	30 mm	Free	100	8
L 35	35/500	35 mm	Free	100	8.3
L 40	40/500	40 mm	Free	100	11.5
L 50	50/500	50 mm	Free	100	12









STYRO CHAIR SPACERS



Styro spacers are used to support rebar covers used in light slabs or base plates of Styrofoam blocks. It creates a 25 mm. distance for the concrete cover from underneath the rebar to the foam surface, preventing the rebars to touch the foam. The base plate has a 38x38 mm. smooth plate which may be easily walked on without pressing the Styrofoam.



Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
SCH134	25/6-12	25 mm	6-12 mm	2000	17.100

CHAIR SPACERS WITHOUT CLIP

this spacer properly.



These are one of the most widely used spacers for horizontal installation in precast parts, composite slabs and base plates having light and straight rebar network.

Smooth and level rebar network is the main condition for using





Code allonal FZC	Reference	Concrete Cover	Packing Qty.	Weight (Kg)
Chw 125	Persozou lideronilles	milite 20 mm intermiteral fee	2000	7.550
Chw 126	Perze 25 a Indocumiles	und ICC P25 mm Indemnallemed ICC	2000	1 15.0 F8.530 Latern
Chw 127	Perrogon Internation	and the Pao miny before desired the	Decadion detailed	1120 P9.100 Line
Chw 128	(Fezzs 40 % Intermetted	ad P2C P40 mm; International P2C	Feeratooo desantless	112.0 F-8.650 a ladertu
Chw 129	Pezzo 50 a bilacunilles	and USC 1-50 miny Industrational USC	Decadooo damadaa	1100 10.550 Line

PAD FIX CHAIR SPACERS



These are a kind of spacers, that contrary to other spacers have no clips to hold rebars, and are made of various stands with 25 mm height. Each pair of the stands are attached to each other.

They are 25 cm in length used to create concrete cover under precast rebar network with a dimension of 100X100 mm or 150X150 mm.

Pad fix chair spacers are also used in slabs and construction of floors for halls and enclosures.

Code	Reference	Concrete cover	Lenght	Packing Qty.	Weight (Kg)
PF25	25/220	25 mm	220 mm	200	12.600

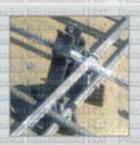


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ARCH DOUBLE REBAR CHAIR SPACERS



This spacer can create a concrete cover with the heights of 25, 30 and 35 mm (without clip) and by client request for the lower network, and a 100 mm (with clip) for the upper network. Refer to pages 13 & 14 for installation method.



Code	Reference	Packing Qty.	Weight (Kg)
DA100	100	200	12.600

PT SLAB CHAIR SPACERS



This universal spacer is used in post tension concrete slabs to create a variable and flexible tendon profile.

Duct or sheathed tendons are placed on these spacers and tensioned with special stressing jacks after concrete is poured and cured.

In this process, the spacer's stability and design play a vital role to obtain maximum slab performance.





Linal 620	Code	Reference	
leant PEC	BS 50	Perreint international PCC Per 50 a international PCC	Ī
OSI land	BS 70	30+40= 70	
least tee	BS 100	30+70=100	
CO lines	BS 140	Perrolan Internation 30+110=140 a International ICC	
Denni 1820 Ionni 1800	BS 180	100+80=180	
DSI land	BS 200	100+100=200	ĺ
leanl PEC	BS 220	100+120=220 Information (CC)	
Logal 12 C	BS 240	100+140=240	Ġ
D29 land	BS 260	Personal Informatica 30+130=260 a Informational ICC	-
INTEREST TOTAL	Discovered as indicators (Described 1997)	Inventor International Law Asserted Street Programmes	



ROUND FIX CHAIR SPACERS



These kind of spacers are used to hold rebars, and are made to provide various concrete cover spacing with 20-30 mm height. Round fix chair spacers are also used in slabs and construction of floors for halls and enclosures.

One detachable set consists of 4 rings



zzolan Ir Code onal FZC	Concrete cover	mational Diameter Inter	Packing Qty.
RF20	20 mm	200 -310	200
RF25	25 mm	200 -310	150
RF30	Decreded below 30 mm : Decreded below	200 -310	ellered tece 100 and a factor



International FZC







STOOL DOUBLE REBAR CHAIR SPACERS



This piece is to create concrete cover in double layered slabs. It consists of two parts (base and shaft), that are coupled to one another. The first part (base) has a fixed height of 30 mm with four coverage distances of 25, 30, 35 and 40 mm, and the second part (shaft) comes in nine height variation to give (40, 50, 60, 70, 80, 90, 100, 110 and 120 mm) concrete coverage. This spacer is made to replace bolster, thus eliminating the use of chair spacers beneath the first network which is considerably cost effective. Refer to pages 13 & 14, installation method.









To commit the position of 120mm

Carcon	Code	Posterior III R	eference		Packing Qty.	Weight (Kg)
ezgeln	BDK70	30	¥14000 E 1000 =	70 reinit latera	idean 1900 Perselin Inter	undernal ICC 145.950 a linker und
ezzela	BDK80	30	¥ 50 420 m	80 refer Interes	ideanl P <mark>100</mark> Perielin later	national ICC Postson Internal
	BDK90	E 8 30	+ 60	190 teles latera	idead 1700 Perselia Inter	made and the Pos.950 a latertum.
	BDK100	후 열 30	+ 70 QCC=	100 class Indoor	nileani l'400 l'erzelan inter	uniform PCC PC7,350 a Informati
eczela.	BDK110	DOE 3 30	* 80 E E C =	1110 chia Interes	affeat Figo Ferreira Inter	medical ICC 147.850 manus
	BDK120	五点 30	+ 90 - FLC	120 slen Intern	idean Plo Perielin Inte	uniform PCC Pr8.350 a Informati
cerela	BDK130	□ 香香 30 ·	* 1100 EEC =	1130 slen Interes	idean Pion Perrein his	neilenel ICC 148.850 a laboure
	BDK140	Petreliu 30	+::110 HTC=	1140 elem Indecor	adean P100 Peazelon Inter	uniform PCC Pc9.350 a Informal
ceacle	BDK150	Percella 30	*:120 LICC =	1150 class laterus	ideanl P100 Perseini late	uniform FCO FC9.850 a laterup.

EIFEL DOUBLE REBAR CHAIR SPACERS



This spacer comprises of a 100 mm base with convenient seats provided on both sides for the rebars to rest on. It can create a concrete cover distance of 25-50 mm beneath the rebar, and in the second network with the connection of 9 types of shafts ranging from 40-120 mm on the 100 mm base it can create a concrete cover distance of 140-220 mm. Meanwhile by using a 13 cm intermediate shaft we can increase the height between the spacer and the base plate from 270 mm to 350 mm (light networks only: Ø 8-14 mm). This will eliminate the use of chair spacers beneath the first network, resulting in lower costs.



20	M				12 lau	0					C		
EC.	hos				aal Ist	53					0		
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TO	腿		Inte	ш		0	Per	in lini	趣	Shart	0		
20	鼷	130n	nm.	BBB.		2	Dec 2	a lai	驑	out 185	idea .		leas lades
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20	肥肥		tate	an)		22	Per de	to but		0 2	31	Sect N	DOWN COLOR
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B.J	醌	colab	busin		mi là	C	Poles	B.d	etuzili	回接	86	20	
ZC.	201	ull.	30.4	0 & 5	Omm ad Na	0							
40	130	celan	chan	ged									

Code	Pozzolan	Referenc	0	Pozzoia	acking (Qty.
DE140	Decreeling	(100 + 40	P	= 140	100	
DE150		100 + 50	2	= 150	100	
DE160	Der SE	100 + 60	SS.	= 160	100	
DE170	Personal St	100 + 70	T.	= 170	100	
DE180	United St.	100 + 80	3	= 180	100	
DE190	14.22	100 + 90	£	= 190	100	
DE200	Personn	100 + 100	Ě	= 200	100	
DE210	Dezedin	100 + 110	to	≈ 210	100	
DE220		100 + 120	CC	≥ 220	100	



Calculation method for the selection of double rebar spacer to be used in double rebar slabs

This chart is being presented as an example +30~36 mm 30+24=54 mm 150 mm FIRST NETWORK REBARS EACH Ø 12 mm
TO CREATE A COVER FOR THE FIRST NETWORK WE CAN
SELECT A SUITABLE DISTANCE COVER SHOWN IN THE (25,30,35,40) ~ 46 mm 40+24=64 mm SURFACE OF COMPLETED CONCRETE mm . 200 mm- 64 = 136 - 6~ 130. 200 SELECT A SUITABLE DISTANCE COVER SHOWN IN THE DIAGRAM BY MEANS OF CHANGING THE SPACER DIRECTION (25,30,35,40) OF THE FORMWORK 40+24=64 mm THICKNESS OF CONCRETE COVER - 40~46 mm SECOND NETWORK REBARS Ø 12 mm + Ø 12 mm = 24 mm 250 mm 250 mm- 64 = 186 - 6~ 180 - FIRST NETWORK REBARS EACH Ø 12 mm



This chart is our recomendation



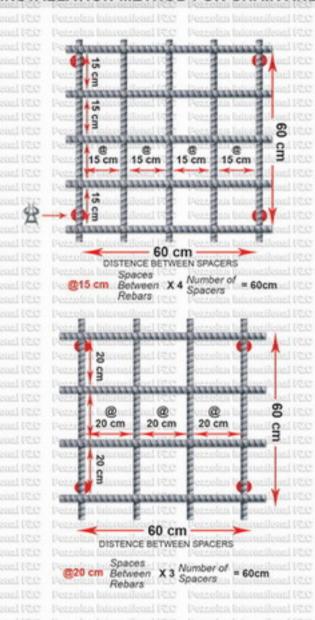


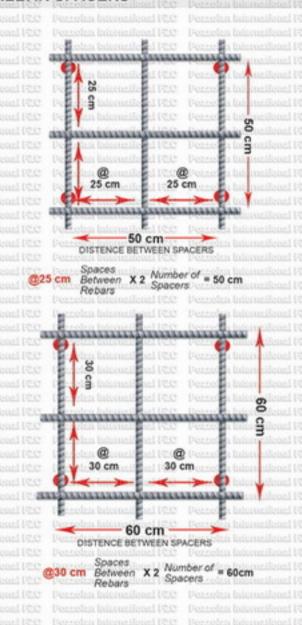






INSTALLATION METHOD FOR CHAIR AND DOUBLE REBAR SPACERS













HEAVY CIRCULAR SPACERS



Circular spacers are widely used for on-site concrete pouring and precast applications to create concrete cover for walls, columns and concrete pipe networks. These spacers have clamps for various rebar sizes. The main pressure exerted on these spacers is absorbed by its spokes or stiffeners.



Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
H C/200	20/6-8 P	20 mm	6-8 mm	2000	11.900
H C/223	25/6-8 P	25 mm	6-8 mm	1500	15.200
H Ci201	30/6-8 P	30 mm	6-8 mm	1000	10.000
H Ci202	30/8-10 P	30 mm	clear Indicate 8-10 mm	1000	11.000
H Ci203	25/8-12 C-V	25 mm	8-12 mm	1000	9.500
H Ci205	30/8-12 C-V	y 30 mm	class ballette 8-12 mm	1000	9,700
H Ci207	30/14-20 W	Internal less 30 mm	elan (14-20 mm	ezelen bit 700 Benel 12	9.250 a luketus
H Ci208	40/8-10 P-C	information 40 mm Fee	class follows 8-10 mm	enclass lat 500 Henri (2	C 19.330 a lukeron
H Ci209	40/8-12 C-V	Videoutles 40 mm Fee	elan Indotte 8-12 mm ^C Po	ereden bei 500 denni (C	C 148.550 n Interna
H C/212	40/14-20 W	laterated 40 mm Fee	elan later 14-20 mm ⁻ De	erein in 500 lead to	0 1-8.850 minteres
ezzele H Ci213	50/8-12 C-V	Valoratiles 50 mm Pers	elas Interes8-12 mmC Pe	eselen ini 250 Henri IV.	C 146.650 h Inform
H Ci215	50/12-20 W	Internation 50 mm Pers	elah lalam 12-20 mmc De	eachin Int 250 Report 17.	C 146,040 h linkeren
H Ci216	50/20-32 W	Internation 50 mm Feet	relate lation 20-32 mm (* De	zeelen Inf 200 ilenel (*)	C 1-8.850 a Indoor
H Ci217	70/12-16 W	Intercediese 70 mm Deza	elas latera 12-16 mm : De	erein ini 150 denni të	@ 0.8.010 n Indexes
H Ci219	75/20-32 W	Information 75 mm (Fee-	elan Infor 20-32 mmc De	ereden had 100 denel (5	2 1-7.030 h Inform
H Ci220	100/16-20 W	before de 100 mm Deze	class fallow 16-20 mm (*)	esetra Info\$0 densi (2	C 1.7.210 harm
H Ci221	100/12-32 W	Informatio 100 mm page	elan lator 12-32 mm : (se	erelen Into 50 Seart (*	7.210 hateren

LIGHT CIRCULAR SPACERS



A range of widely used plastic spacers which are light weight and used for different bar sizes with light network for walls and precast concrete parts.









Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
L Ci222	20/8-12	20 mm	8-12 mm	2000	10.000
L Cl234	25/8-12	25 mm	8-12 mm	1500	8.900
L Ci224	25/12-16	25 mm	12-16 mm	1000	6.200
L Ci206	30/8-12	30 mm	8-12 mm	1000	7.400
L Ci210	40/8-12	40 mm	8-12 mm	500	5.650
LC/211	40/12-20	40 mm	12-20 mm	500	5.650
L Ci225	50/8-12	50 mm	8-12 mm	400	6.690
LC214	50/12-20	50 mm	12-20 mm	400	5.830
L C/218	75/12-20	75 mm	12-20 mm	150	7.300



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HEAVY DUTY PILE CAGE SPACERS

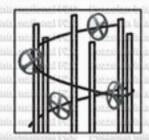


These spacers are designed in sizes of 75 and 100 mm in two types to provide cover for the pile cage.

1-Type (O) At the time when pile cage rebars are being set, the spiral rebars are pressed through the (O) center spacer holes and in proportion of the pile cage diameter a maximum of 8 numbers of spacers are distributed in pile cage surrounding in each spiral bar and are placed with the height of 1.5 meters from each other.



2- Type (V) After the bar mat texture of the pile cage rebars are formed and when the pile cage is ready to enter the excavated hole, a maximum of 8 numbers of spacers are arranged in each spiral bar from bottom to top in the proportion of the pile cage diameter and with distance of 1.5 meters, they are pressed and clipped through the (V) cleavage into the spiral rebars, to create a concrete cover distance from the side wall.







Zolan Code ational F Reference an Intern Concrete Coverzolan	For Steel Diameter P	acking Qty.	Weight (Kg)
PO226 Teach 17 75/12-16 in Information 175 Percent	Indoor 12-16 mm Feezela	25	2.130
PV227 1000 17075/12-16 1000 1000 175 Percent	Interes 12-16 mm Personal	Interest	CC 141.720 a laterate
cerefor PO228 ilean 17 100/12-16 in Industrial and 100 Percelon	Indexes 12-16 mm Persons	Indi 25 Hebril	12.0 1-2.400 a lateron
PV229 100 (C 100/2-16) 100 100 100 100 100	Information 12-16 mm December	25	100 D.2.700 a Industria

SLAB FIX



SLF14 SLF19



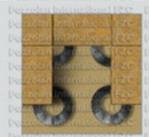
SLF13

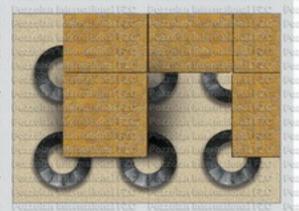
This spacer is not designed to be used in concrete structures.

It is used to maintain distance of stones and tiles from the floor surface,14 mm height and 3.5 mm between tiles, The purpose of using this part is to create a special stone or tile floor in order to prevent accumulation of water and rain on its surface and guide the water 14 mm beneaht the surface. These pieces may also be used on the roof tops to prevent damage to the sealed surface. Meanwhile this is also used to prevent water accumulation in pedestrian crossing areas.

Instruction for use:

These base plates are placed under stones and tiles with corners of tiles to meet in the center of the spacer leaving 3.5 mm distance from each other.





Pour Code terms	tional Spacing azolan	Diameter C	PozzoJoint thickness FZC	Packing Qty.	Weight (Kg)
SLF13	Roanl (2.013 Ferredan	150 mm c	Decretor to 3.7 mm and tele-	Decrede 250 conflet	12.00
SLF14	ilonal PCC14 Perrolan	150 mm	Decretes to 3.7 mm and the	Decrede 250 mailes	12.00
SLF19	deant to 49 bowedon	150 mm	Decredes to 3.7 mm and to co	been 250 miles	12.00



International FZC

CONES



Used in both ends of high pressure PVC pipes for metal bolts to pass through.

These cones consist of two types in various sizes. The heavy type cones may be reused for a few times after placement, but the light type cones are not reusable, and should be removed after dismantling the formwork.

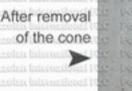














Positererros
L- Cone Ø18/h10
H-Cone Ø18/h10
H- Cone Ø22/h10
H-Cone Ø18/h40
H- Cone Ø20/h30
H-Cone 20/h75

100	Inside tube dia	meter	Height	Per-	Pa
	22 mm	Pezzela	10 mm	PEC	Petro
IX D	22 mm	Perrein	10 mm	12C	Perse
	26 mm	Ferrela	10 mm	IEC	Dette
	22 mm		40 mm	PCC	Perse
	O 51 Insplanuesha	Perrela	30 mm	FEC	Fezze
IX B	OZHarellanski	Pezzelo	75 mm	LEC	Derre

Height	Packing Qty.	Weight (Kg)
10 mm	2000	6.530
10 mm	2000	9.700
10 mm	2000	13.750
40 mm	500	11.900
30 mm	500	11.900
75 mm	Ferrele 250 ctualletel	20.680

SLEEVE AND CONE FOR Ø 16, 18 & 25 mm BOLTS



These sleeve and cone spacers are made of a PVC pipe and cone with outer diameter of 25 - 26 mm.

These spacers are used to create a distance between two concrete wall formworks for the metal bolts up to 18 mm diameter to pass through, and fixing the formworks, preventing leakage of laitance from the formwork. After pouring of concrete and unfolding the formworks, the cones are removed and the bolt opening is formed without any chipped edges. Heavy cones may be reused, but light cones are for one time use only.

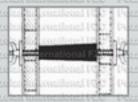


olanii	ntermiCode FZC	P Tube diameter	FZC Bolt On the	emational Height excellent	Packing Qty.	Pozrolar
	Cone 22/32	25 mm and cont	DEC Date of the last	200 mm to 500 mm	decomine 100 mg	
ofen to	Cone 18/25	personal mm and the self-	DEC Di22 class fail	200 mm to 500 mm	100 cc	Derroles

CONICAL SPACER



This spacer is a conical piece, having a strong body made of plastic material. It can resist strokes, temperature and formwork oils to a great extent. Based on its application it is mainly used in tunnels and ordinary formworks.



Having a hole provided in its center, it helps to stabilize the wall formworks enabling the preparation of concrete pouring operation, by

means of anchor bolts, and to create expose walls of 20-30 cm thickness. It is to be mentioned that immediately after removing the formwork, the conical spacer which has a length equal to the thickness of the concrete wall should be removed from the concrete with moderate strokes to prevent any damage. This spacer may be used for several times without any problem.

Code Code	Reference	Concrete Wall Diameter	Bolt Diameter	Packing Qty.	Weight (Kg)
Col298	150/22	150 mm	27 mm	Percelan 150 unitetu	7.178
Col299	200/22	200 mm	27 mm	Personal 150 million	9.660
Col300	250/22	250 mm	27 mm	Peacelan ligo milleto	13.180
Col301	300/22	La tallet 300 mm CC Feeze	27 mm 15.0	Petrolan hoo uniform	17.300









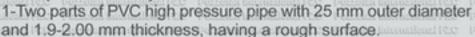
SEALING MIDDLE BOLT



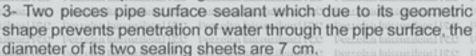
This is used in water and sewage reservoirs, pools and concrete water treatment plants as water sealant in concrete structure at the point of bolt passage.

These products have been tested in Iran by Sano Engineering Laboratories that conform to DIN-1048 for water sealing up to 5.5 mm and suitability for use in sewage plants.

This unique middle bolt comprises of various parts which makes a complete assembly:



2- Two pieses of cones with 40 mm. height made for a 16-18 mm diameter bolt to pass through.



4- One diaphragm water stop pulley with 8 cm diameter.

5- Three pieces of pipe interior sealant plugs, two with edges and one with no edge.



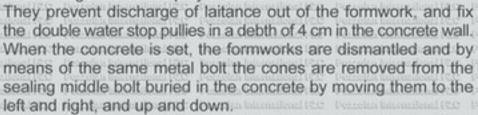


First ,the two parts of rough PVC pipes are connected through the diaphragm water stop pulley. The two double water stop pullies are then placed on both ends of the pipes. The two cones are now installed on the double water stop pullies.

All the above mentioned parts are pre assembled in the factory and delivered to the client as a complete sealing middle bolt assembly. Instruction to use:

The sealing middle bolt is placed between two wall formworks and the metal bolt with screw ends are passed through it, the formworks are fastened by means of nuts, and finally the concrete pouring operation begins.

At this stage the cones play a critical role.



The sealing middle bolt is then sprinkled with water causing slipperiness and the pipe interior sealant is also wetted.

By means of 25 cm long punch having the same diameter as the pipe and a 5 kg hammer various strokes are struck until this piece is fixed in the middle of the concrete wall.

Please note that all the above operation is performed from the inside of the water and sewage reservoirs.

Two pieces of the edgy pipe interior sealant are moved with the same punch and hammer into the middle bolt pipe, one from the inside of the reservoir and the other from outside.

Finally the hollow created by 40 mm cone is filled with grout, and a perfect seal is created in the desired point.



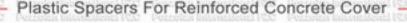












Quality . Strength . Reliability

POZZOLAN International FZC

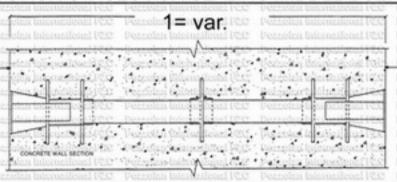


Destroit	in Code attend FZC	PoziReference ational FZC	PozzeLenght mational FZC	Packing Otymatical FZC	Weight (Kg)
Perrel	Mb 125 Team 12.0	Sealing middel bolt	Decree 200 mm and the ord (PCC)	(Aceset 50 International 1700	(-5,650 n Internet
	Mb 125	Sealing middel bolt	Decre250 mm afferd tee	Percel 50 International 123	1.6,150 h hateres
	Mb 125	Sealing middel bolt in the	(=e 300 mm = floor (==e	Derret50 Interestletal 170	(-6,650 h Indores
	Mb 125	Sealing middel bolt	per- 350 mm a dead tree	Percetto international (CC	7,150
	Mb 125	Sealing middel bolt	(a	thereof 50 informational 17 C	7,650 minterest
	Mb 125	Sealing middel bolt	15c 450 mm	Derrot50 Internettenet (CC	8,150
	Mb 125	Sealing middel bolt	500 mm	Dog-od 50 Informational 1919	8,650
	Mb 125	Sealing middel bolt	550 mm	Derrot 50 Informational 18 (9,150



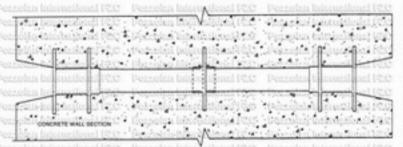
WALL CONSTRUCTION STAGES FOR SEALING MIDDLE BOLT ASSEMBLY

WALL SURFACE INTERNAL WASTE WATER SIDE

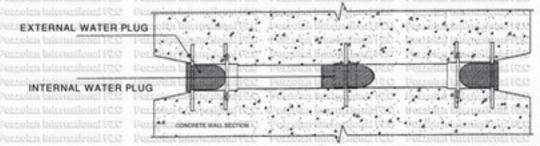


WALL SURFACE EXTERNAL

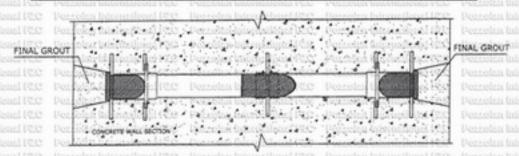
1- SEALING MIDDLE BOLT SLEEVE ASSEMBLY IN CONCRETE



2 - SEALING MIDDLE BOLT SLEEVE IN CONCRETE, WITH CONE REMOVED



3 - INTERNAL AND EXTERNAL WATER PLUGS PLACED



FINAL STAGE OF SEALING MIDDLE BOLT ASSEMBLY AFTER GROUTING







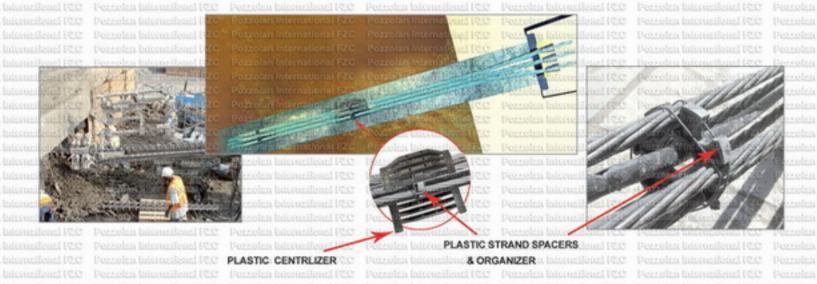


PLASTIC STRAND SPACERS & ORGANIZER



Strand spacers are provided in the anchor bond zone to separate the strand and provide for the minimum required grout cover around each strand for corrosion protection and bond strength development. The strand spacers are normally located 30-60 cm above the bottom of the anchor and at the top of the bond zone. The intermediate strand spacers are typically placed at a distance of 150-300 cm, center to center along the bond zone between the top and bottom spacer.





ROCK ANCHOR BOLT SPACERS



After drilling operation of bores is performed by the drill wagon, rock anchor bolt spacers which are designed with three concrete cover distances of 1 cm, 2 cm, and 3 cm are used to cover anchor bars in order to strengthen the soil.

Instruction for use: Rock Anchor Bolt spacers are selected according to the bore diameter and are placed around the anchor bolts (rebars of 32 mm diameter and over) as per illustration and



simultaneously the injection pipe and anchor bolt are placed in the drilled bore, so that the spacers provide suitable concrete cover distance around the anchor bolt and to stabilize the rebar in the bore center, preventing the anchor bolt to touch the soil and thus to avoid corrosion. At this stage the grout injection operation begins. This operation will prevent probable land slip in the trenches and the tunnel.







Code	Reference	Concrete Cover	For Steel Diameter	Packing Qty.	Weight (Kg)
Rs240	10/32-42	10	32-42	400	10.980
Rs241	20/32-42	20	32-42	400	12.800
Rs242	30/32-42	30	32-42	400	14.500



International FZC

LANTERN SPACERS - CENTRALIZER



Pozzolan's "Lantern" Spacers fulfill the need to keep steel bars in a drilled hole in ground anchoring applications. Lantern centralizers also allow grout and grout tube to pass down the hole when bar is installed.

Lantern centralizers can be attached securely to the bar quickly and effectively using wire ties.

Benefits:

- Easy applicational tec Persona Informational tec Persona Informational tec Persona Informational tec
- Range of sizes for common applications.
- Allowing space for grout tube to be installed.
- == Economical providend (CC | Perrelan International (CC | Perrelan International (CC
- This item is available in different sizes and dimensions. Required measures should be given and confirmed prior any order.

PVC WATER STOP: Percelan informational PCC Prescelan informational PCC



Formworks at interruption points of high concrete walls are usually performed in various stages. Water stop tape are therefore used in between two concrete walls to prevent water penetration.



Reference	Size "a"	Size "c"	Weight/me	en ozzolan international exce	Testra minimisena (e.c.	Pezzelan Intornaliea
PW1-170	earl 170 Fee	relan Microsi	Jeani FE41	Pezzelan intermileani (CC	Per Model End to	Petrelin Intermiler
PW1-240 A	240 Fee	neinn (4 keen)	Jean 1716	Dezedan International PCC	III) pinnessiani in in in	-i-esteinmintummi
PW1-240 B	earl 240 Fee	edan (6) sron	2.5	Pezzelia lateratileasi PCC	Percelm Interestional PCS	Percelan Internalier
PW1-300	east 1300 Per	-clau4-5	2.8	Dezaelan International UCC	Petrelm intensiferal PCC	Dezzelan Intornalien
	earl P.C Per		Heard PSC	Dezaelan International PEC	Percelan Informalienal PCC	Deemelan Internation
Pw2-170	eand 1470 Per	colon3-4 run	desail (CA:1	Pezzelna fatoranileani (CC	De nelm International ICC	
Pw2- 200	earl 200 Fee	celan Micros	Jean Jat.7	Dezestan International PCC	Per Mandalan Condition	Peznelnii latorunilea
Pw2- 240 A	cand 240 Fee	colon4-5	Bearl 121:8	Pezzelna laiotanileani PCC	De Model C	Dervelen Interestlen
Pw2- 240 B	estal 240 Fee	-clas 5-6	Beaml 141.9	Dezeclan International PEC	Derekten Internettenet (250	Deckeden Internet es
Pw2- 240 C	earl 240 Dec	rolan (Steens	deted (42.1		Be selan international PCC	
Pw2- 240 D	estal (240 Des	- clas 5-6	Beant 1/2.1	Dezaelos International PEC	Perselm Interestlenal 150	
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	earl CO Dec			December Informational PDC	Destruit International Corp.	Dec Telem Intel Labor
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Deceden Interneth	coul DOC Dec	eeden Internet	Hound Little	Decedan Informalional 1205	MODEL EM	Deexelen Intonsiller
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Pw5- 300	300		3.3		Der sehm Informstiener 1755	Decreten Information
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Pw6- 300	300	7-9	tour tour	Decedes Informational IPC	Bereden Informational trees	Dereden Internation









PLASTIC CAP SPACER



To be used in concrete pipes for corrosion prevention of vertical rebars. Fits tightly on reinforcement bars and eliminates formwork











Code Reference		Reference	Reference Concrete Cover For Steel		Packing Qty.
ALC: UNI	Mc170	10/6	10 mm	6 mm	5000
1.5500	Mc171	10/8	10 mm	teranticani 8 mm Derzeina is	5000
	Mc172	10/10	10 mm	leconfident 10 mm	5000
15000	Mc173	10/12	10 mm	locatilea 12 mm Ferrein to	5000 Ferrel

REBAR SAFETY CAP (orange)



By placing safety caps with fluorescent colour on waiting rebars to avoid possible injury, safe environment is created for workers, technicians and construction engineers.

These caps are made in two sizes suitable for rebars having 8-16 mm and 16-32 mm diameters and are used to cover rebars of 8-16 mm diameter to prevent damage to formworks and to hide appearance of rebar ends from the concrete surface.



	Code	Reference	For steel Diameter	Packing Qty.	Weight (g)	
12.0	RSC450	8/16	8/16	500	310	
.78	RSC451	16/30	16/30	250	400	

MUSHROOM REBAR SAFETY CAP (yellow)



Plastic rebar safety caps with fluorescent colour are highly visible and are used on the top of waiting rebars to help ensure construction site safety, and to protect against impalement injuries caused by protruding rebars.



	Code	Reference	Rebar Diameter	Height	Packing Qty.	Weight (g)
-01	MR360	50/80	8-16	70 mm	200	840
	MR361	50/50	16-32	70 mm	200	840

International FZC



FORMWORK SPACER (RAMKA)



This is used to create a distance between two formworks of concrete wall or column.

This valuable piece is installed by 4 steel nails or connected to the rebars by wire, between two chalk lines. The formworks are then attached to the formworks spacer and begin setting the formworks.

Through the use of these spacers, exact adjustment of wall or column concrete thickness is made possible.





SWITCHBOX



The switchbox is used in fixed or prefabricated concrete walls for the installation of sockets and light switches and junction hoxes

They are made in 5 and 8 cm depths and have a sealed cap.



Code	Reference	Diameter	Height	Packing Qty.	Weight (g)
SW360	50/80	50	80 mm	200	840
SW361	50/50	50	50 mm	200	840



SHIM PAD



Horse Shoe Shim Pad

These shims are fitted around projecting bars and suitable for packing of precast concrete units during construction. They are also used when shim has to be pushed over concrete dowels. Plates with superior load bearing characteristics made from high strength polycarbonate plastic are available on request.



Square Shim Pad

œ.	Code	enal Reference clan in	ternalic Tickness Pozzolani	Weight FZC	Packing Qty	1.FZC	Pozzolan Interna
(02)	SP365	70X70X2	returnicani (EC2 mm-class	7gr up to 35gr	250	1120	Percelas Intomici
	SP366	70X70X3	contiend ICC3 mm relati	10gr up to 50gr	tremelin hat 250 lean	120	Dezzelin Interns
	SP367	70X70X5	conficant (CC5 mm relati	Informatiental P.C.	Pezzelen biomedean	LCC	Petrolas Intornati
	SP368	70X70X10	conficunt CC410 mm relate	251 Innellandalal	Pezzelna International	HEC	Percelan Interna-



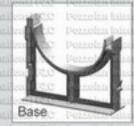
International FZC



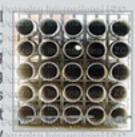




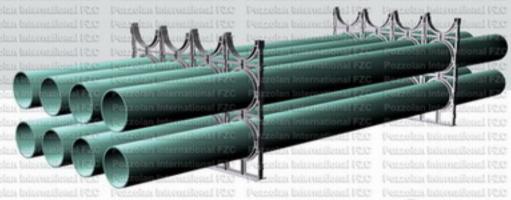
PIPE SPACER FOR PVC CABLE DUCTS (ALSO UNDERGROUND DUCT BANK)

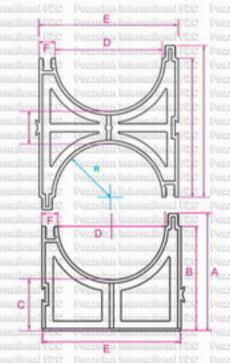


Pipe spacers are used as a multichannel and multilevel system for all kinds of underground cable duct systems; especially recommended in various underground cabling applications. They are especially designed with interlocking devices to also make an assembly of duct bank outside trenches stable. Pipe spacers have base and intermediate parts that connect horizontally and vertically to provide for as many ducts needed.

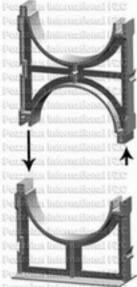












PVC Pipe spacer for 4" and 6" and 8" pipes

Base

Code A (mm)	B (mm) C (mm) D (mm)	E (mm) F (mm) Diameter
f DSb114 ASTM 122	Perre 102 intermiteant ICC 45 errelm intermittal ICC	Perrein 155 meilenel (CC 20 rein internellen 44 CC Per
TypeA DSb114 DIN 120	Perre 100 mountleant PCC 45 errelan bicount 110 d PCC	Perrelmise musilend ICC 20melan informalien 4.CC Per
Type 8 {DSb114 ASTM 145	Perre127 menunikani PCC 70 errelan intermi 115 d ICC	Perrelia 155 de identifen de 20 de la laterantien 4420 142
DSb168 ASTM 202	Perce 182 Intermillend PCC100 errolen Intermi168 d PCC	Perrelm215 muniferal FCC 25 relan information 6 FCC Per
DSb160 DIN 175	Ferret57 alcumilead (EC 80 errelan lalcam 160 d EC	Person 206 medicard ICC 25 rota bilimedica 61 CC Per
DSb203 ASTM 222	Pezze200 alexendenal PCC100 ezzelen bilenen 203 d PCC	Persoln 250 minifered PCC 25 roles Information 8150 Fee
254 Intelligental and a series of the state	Percela Intermediate	Percelan Informational PEC Percelan Informational PEC Per
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const Code Pozzelan Int. A (mm) II FZC	Poz B (mm) emational F.C (mm) zolan later D (mm)FZC	Pozzo E (mm) national FZCF (mm) of an interna Diameter: Plant
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Type 8 { DSi114 ASTM	Decret40 administrational PCC 55 cerebra fatores 115 d PCC	Percin 154 consideral ICC 20 reten information 4 ICC Per
DSi168 ASTM 237	Gers 220 planta from the 50 correlation 168 (per	person 215 mellour (to 25 refer information 6" to bee
DSi168 DIN	per 205 mountained (20 50 cereles become 160) (20	Perrein 205 medicani (CC 25 rein intermiten 6"1CC Per
DSi203 ASTM 270	perso250 minumitioned (the 50 erroles Inform 203 d (the	Peerelm250 considered the 25 relea has made 8"the Per
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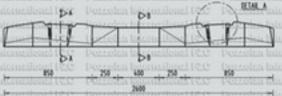


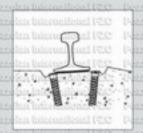


ROLL PLUG AND CAP FOR RAILWAY TRAVERSE



These roll plugs are used to fasten the rails to the concrete traverse.











STEEL INSERT



Thick walled, seamless heavy duty steel cast-in socket with metric thread. Punched flat end makes higher tensile load possible. Yellow electro galvanized, multi-purpose socket enables high draw-out values obtainable even without reinforcement. These inserts come with pre-assembled nailing plate.



SMALL SOCKET



This piece is used to create precast holes in underground tunnel segments to install air vents or installation canals.

Instruction for use is as follows:

After the small plastic socket is taken out of the concrete segments it leaves a hole with 1 cm diameter and 10 cm depth. When the roll bolt is placed in the hole created in the concrete segment, all installation network are installed on tunnel walls by means of clamps.



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	Percelan international PCC	Percelan International ICC				
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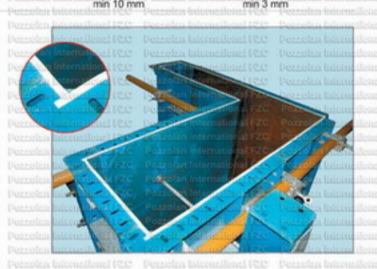
SEALANT FOAM TAPE



This is a 10 m long, 10 mm wide and 3 mm thick (and more as per your order) rolled tape with one strong adhesive side. It is used to prevent leakage of concrete laitance from the formwork.



Pezzelan International PEG	Dezaelan Internation
Decaples International (200)	Bookeles Internetions
People in this material FZC	Pozzolan Internation
Personal takan at pro-FZC	- Personal Months of
Fee Mais Inlean Count F2C	gozzolan (starpedie:
Personal alone of such FAG	Pozzolan Eternation
Designation of the 1740	Pozzolan litter ties
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CONCRETE FOAM HASP TAPE

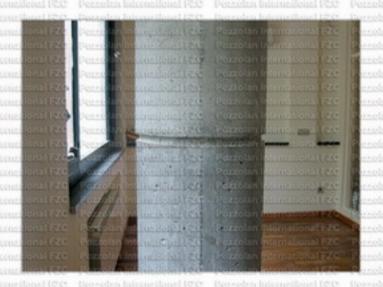


The HASP tape consists of pressed foam on one side, covered with strong waterproof adhesive used to fade out formwork seam. The dimensions are 10x20x1500 mm.

Installation procedures: First remove the oily surface, make sure there is no residue on the concrete surface, wipe with clean cloth to make it completely dry and then fix the tape.









CHAMFERS



TRIANGLE CHAMFERS

Triangle chamfers are made in types A, B and C, used in wooden or metal formwork corners. They create a bevel at the edge of finished columns, beams, slabs and etc.

A-PLASTIC CHAMFER WITH NAILING FLANGE To install this chamfer, first the point of bevel and formwork are aligned then the edge of chamfer is nailed to the base plate of the wooden formwork.

B-PVC CHAMFERS This chamfer is placed in the corner of the wooden formwork and nailed to the formwork at the corner of the chamfer.

Reference	Size A"	Size"B"	Size"C"	Length	
PVC Chamfer N11	20 mm	28mm	45mm	2500mm	160
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Reference	Size"A"	Size B"	al EZC Pozzolani	Length 20	ě,
PVC Chamfer 20	20 mm	28mm	al (CC Deceden)	2500mm	De:

HOOK AND TIE WIRE

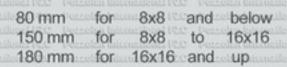


Tie wires are used by an instrument called the rotating hook, especially made for this purpose. This instrument is designed for three different lengths to tie up a total of 8-12, 14-16 and over 16 rebars.

Reliable simple and eight (8) shaped ties are made possible by using this instrument.



The tie wires are packed in bundles of 5000 pieces. This hook can tie the looped tie-wires that come in the following sizes















Conditions and Remarks

- Reproduction of this brochure in any form without prior written consent of Pozzolan is prohibited.
- Pozzolan have made every possible effort to ensure that accurate information is provided in this booklet, but however it is the user's responsibility to determine the suitability of a product for a specific application prior to its use.
- Some of the data presented here may be found invalid due to product developments in future. In case you wish to be assured, please contact us for consultation.

Sales Prices

Our prices are to be understood in US\$ ex-works factory packed free on truck. The prices invoiced would be those in effect at time of delivery.

Delivery Terms

Delivery time quoted is subject to prior confirmation. Delivery period will commence when goods are ready for shipment. Claims for compensation are expressly excluded in all late delivery cases. Minimum delivery would be one packing unit per size. All weights are per 100 pieces or 100 meters.

Defective Material

We accept responsibility for any goods supplied and proved to have been defected in manufacture or poor quality. These items will be repaired free of charge or replaced with new ones, provided that written notice is received before six weeks after delivery. Responsibility for defects resulting from improper use shall not be accepted for replacement.

Packing and Sizes

Contents and number of pieces in a packing shall be determined by weighing. Slight deviation may occur from differing densities of the raw material. All weights stated on the packing are approximate and are only used to determine cost of transportation.

Dispute

In the event of litigation, the courts of the supplier's country shall have sole jurisdiction for all disputes arising from contractual relationships.



International FZC

Safety Notes:

- 1- The client must evaluate suitability of the product for every application and the prevention of excessive load. If in doubt, individual testing must be carried out.
- 2- All products are subject to wear, corrosion, deformation and excessive loading and alteration. Reusable products should be inspected regularly to evaluate its continued use.
- 3- Some products are a part of a system, therefore no single components should be replaced by another manufacturer's products, in which case no responsibility can be accepted
- 4- Pozzolan reserves the right to modify the design of products shown in this brochure without prior notice.
- 5- The following should be taken into consideration for the use of all plastic spacers:
- Spacers may not be twisted, fall or moved after assembly.
- Spacers may not be largely deformed by forces applied.
- Spacers must be firmly attached to the reinforcement.
- Spacers may display differing properties at different temperatures
- 6- Considering that Pozzolan has no control over the conditions under which the spacers are used, therefore no guarantee can be given for the use of the products shown in this catalogue.
- 7- Please make sure that packages containing plastic spacers are stored in a covered location, away from direct sunlight.
- 8- Spacers are usually manufactured from PE raw material which is physiologically resistant against all acids and alkaline solutions used in the construction industry.
- 9- Pozzolan has a fully equipped workshop which allows production of custom made items according to your requirement. Please contact us if further information is required.
- 10- Pozzolan spacers have been used in many different climates all around the world with complete customer satisfaction.

