



## Know about us...

Bist Baspar spadana Industrial Group factories started their activities with the aim of job creation for young people and producing quality products. The experienced engineers and researchers of this factory, using the latest technologies in the world and using all their capacities, started working in the field of production of single-layer polymer pipes and fittings with Bist baspar brand.

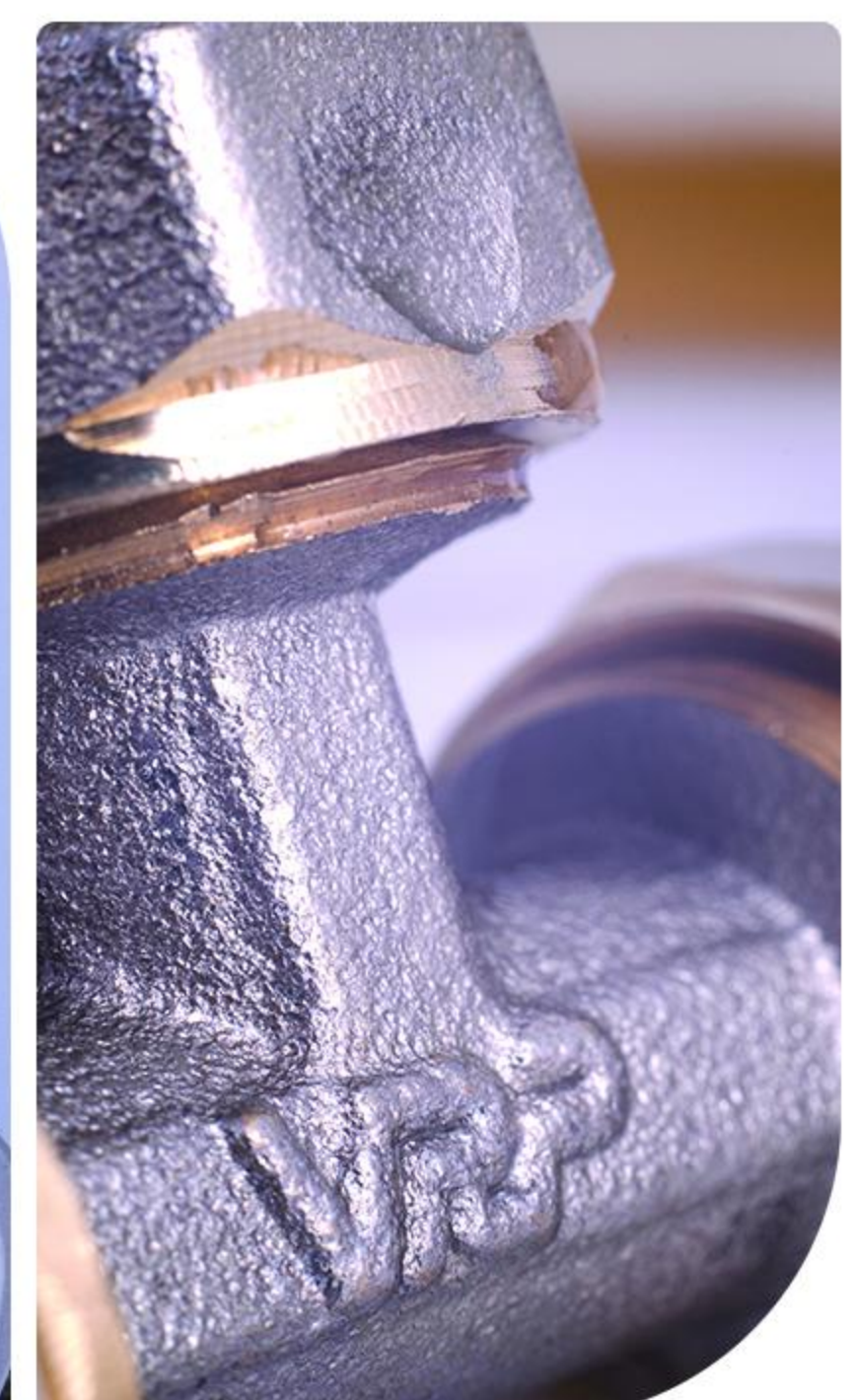
After succeeding in creating a diverse portfolio of single-layer polymer products and receiving many standards approvals and certificates in this field, a new movement began in the production of five-layer pipes with Iran Pipe brand. And after that, it started to produce coupling brass and press fittings with VRP brand.

After a short time, it reached mass production, which, as in the past, by maintaining the superior quality of products, respecting consumer rights, having international standards, certificates and approvals, this industrial group became one of the top producers in the field of these products.

Bist Baspar spadana Industrial Group, in this way our mission, mass-produced polyethylene tanks used in homes, industrial and agricultural manufactory as storage of water and other liquids in various sizes and designs with Bista Baspar brand, and by obtaining standards and necessary certifications have become one of the top manufacturers in this field.

We are proud to have a continuous and brilliant presence as a top brand in many executive projects of the country as well as exports to different countries. We firmly believe that being first or second in an industry is far less important than being top. We are proud to be the best.

We follow the growing trend and all-round production of new products by using new technologies and making every effort and we believe that the superior quality of our products has no boundaries and we are committed to expanding as much as possible in terms of quantity and quality and providing new services.





## Laboratory & Quality Control Unit

The laboratory & quality control unit is one of the main and most important units of Bist Baspar Spadana Industrial Group, which controls and monitors the quality of raw materials and all products for each industrial unit separately. Raw materials prepared are examined by this unit to produce in the factories of Bist Baspar Spadana Industrial Company.

### Stage 1: Control the raw materials

All raw materials required by this company, including single-layer polypropylene materials, PEX, PERT, aluminum, brass ingots, glues, pigments at the time of entering the factory are controlled and their desired quality consistent with existing standards is tested, and if approved, the permission to enter the raw material warehouse is issued by the unit.



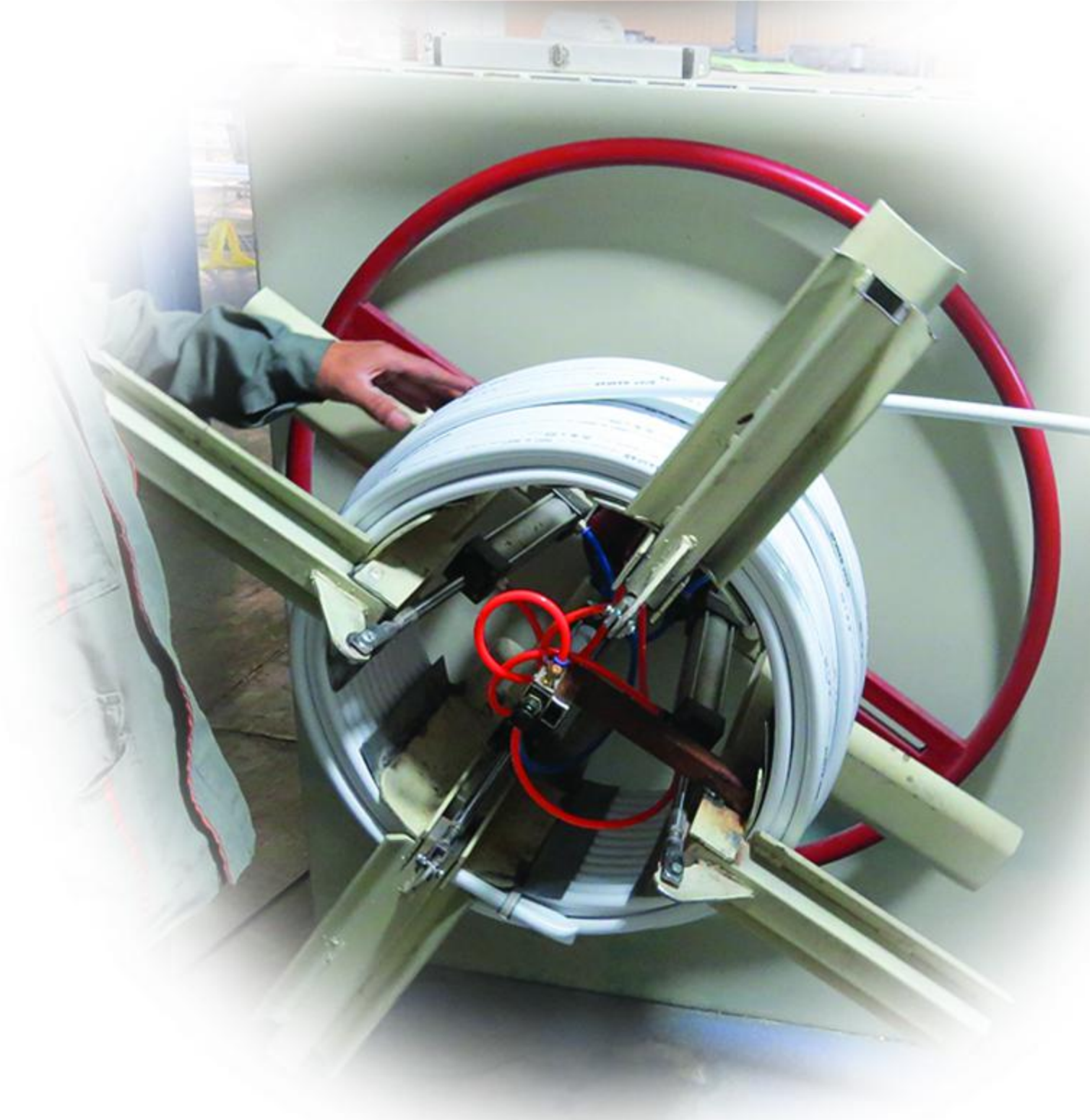
### Stage 2: Control during manufacturing

One of the important tasks of the laboratory & quality control unit is quality control of products during manufacturing, which is randomly selected from all production lines and products (single-layer pipes and fittings, five-layer pipes, brass fittings, and polyethylene tanks) and is controlled and tested in the laboratory.



### Stage 3: Final control of products

The manufactured products are tested and re-examined before packaging and are packaged after complete confirmation. The tests include measuring the dimensions of pipes and fittings, their weight, and short-term and long-term hydrostatic pressure tolerance at different temperatures, and also the impact test of single-layer and five-layer pipes and fittings, polyethylene tanks, etc. in intended coldness.





## Bist Baspar Polymer Pipes and Technical Specifications

Bist Baspar single-layer polymer pipes are made of the best and most quality raw materials available using a masterbatch with polymer base as an energy consumption grade for the pipe.

Moreover, the pipes are produced consistent with the maximum thickness of the standard table. The items above increase the durability of Bist Baspar polymer pipes compared to pipes produced by other companies.

## Bist Baspar polymer fittings

Some polymer fittings include brass beads, which also play an important role in the quality of bushing and nipple threaded fittings. Precise design of these brass parts is considerable to Bist Baspar company; unique design and using high-quality ingots with the desired alloy, on one side, and plating with resistant and shiny nickel metal (which makes brass beads harder and more resistant against corrosion and abrasion and also anti-friction), and on the other hand, not only has completely solved the problems by manufacturing this type of fittings that other companies still face, but also the metal threaded fittings produced by this company have quality beyond imagination.

## How to join Bist Baspar pipes and fittings

Bist Baspar polymer pipes and fittings are joined by fusion welding according to DVS and DIN standards, and it is necessary to be considered the points of the table in the fusion process. After fastening the appropriate and standard mold on the plate of the fusion machine, connect it to the power supply and set the temperature of the machine to  $10 \pm 260C^\circ$ , and after heating the machine, which lasts for 20 to 30 minutes, you can start the fusion process.

**Technical specifications of polymer pipes**

outer diameter mm	outer diameter inch	tolerance mm	thickness mm	tolerance mm	weight per unit length kg
20	1/2	+0/3	3/4	+0/6	0/172
25	3/4	+0/3	4/2	+0/7	0/266
32	1	+0/3	5/4	+0/8	0/436
40	1 1/4	+0/4	6/7	+0/9	0/671
50	1 1/2	+0/5	8/3	+1/1	1/041
63	2	+0/6	10/5	+1/3	1/653
75	2 1/2	+0/7	12/5	+1/5	2/340
90	3	+0/9	15	+1/7	3/360
110	4	+1	18/3	+1/9	5/040



Before plating



After plating

**fusion guideline table according to the standard**

pipe diameter mm	depth of fusion mm	heating time s	welding time s	cooling time s
20	14	5	4	2
25	15	7	4	2
32	16/5	8	6	2
40	18	12	6	4
50	20	18	6	4
63	24	24	8	6
75	25	30	8	8
90	29	40	8	8
110	32/5	50	10	8



## Note:

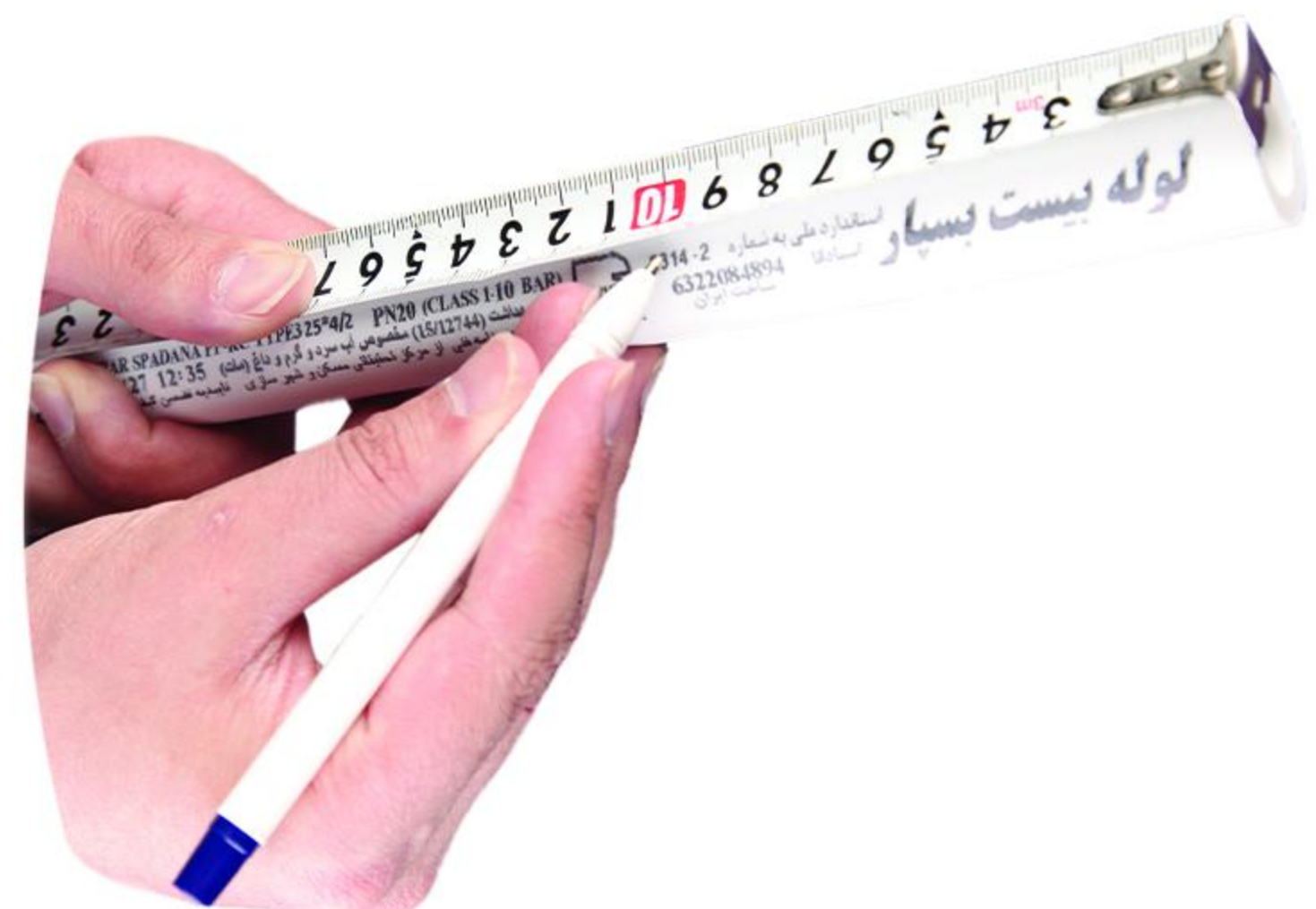
The mold and the fusion point have to be completely clean because the burnt particles on them will cause incomplete welding. If the ambient temperature is less than 5 °C, the heating time should be increased to 50% and the temperature of the device should never be set higher than the mentioned temperature since the temperature of more or less than  $10 \pm 260$  C° causes molecular degradation and not fusing respectively.

## Connection Steps

1. Cut the used pipes completely perpendicular to their longitudinal axis and clean the cutting area. Keep in mind that not cutting vertically causes a change in the depth of fusion.



2. According to the fusion guideline table, mark the depth of fusion on the pipe with a ruler or meter.



3. Making the pipe and fitting approach to the end of the fusion machine molds at the same time using the same pressure. Be careful not to enter the pipe more than the marked part inside the mold, as the inside diameter of the pipe will decrease and the pipe will become clogged.



4. After heating stated in the relevant table, take the pipe and the fitting out of the mold without turning and immediately, without twisting and turning, put them inside each other to the specified depth of fusion.





## Note:

It is worth mentioning that the heating time, according to the guideline table, starts when the pipe and fitting have reached the end of the mold. About 2 to 3 hours after the last fusion, the project is ready for pressure testing. It would be best to test the welded pipe and fittings at a pressure of about 10 to 15 atmospheres.

## Important test to ensure proper fusing

Perpendicular to the longitudinal axis, cut the weld of the pipe to the fitting, which fused according to the connection method above with scissors to ensure that the fusion process has been done correctly.

If the surface of the cut part is smooth and seamless and the fused point with the fitting is inseparable and without bubbles, and also the fitting opening is not tight, the fusion process is done without defects and after testing, you can deliver the project with certainty.

Otherwise, if the fusion process has been done imperfectly, even if the pressure test of the project is acceptable, the facilities and installation of that building will be at risk of leakage in the future.

Note that despite the fusion performance testing of the project, a pressure test is required to ensure the performance of the piping system.



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## Do's:

- Use Bist Baspar polymer pipes and fittings together
- Do all the items mentioned in the connection steps
- Perform pressure test after piping and draining water pipes to prevent freezing in cold weather
- Cover on the pipes after performing the pressure test
- Protect from direct sunlight
- Be very careful in transportation
- Use PTFE to install metal fittings
- Use suitable insulation for pipes in cold weather



## Don'ts

- Do not use greasy and dirty pipes
- Do not use joint sealing for metal fittings, and conical nipples
- Do not expose the pipe to direct flame
- Do not hit the end of the pipe and drag them on the ground
- Do not use an iron plug
- Do not use pipes with cracks on the surface
- Do not use wrenches with rough jaws and teeth
- Do not hit the pipes and drop hard objects on the pipes, especially in cold weather



## Why should we use Bist Baspar single-layer pipes and fittings?

1. Because polymeric materials do not oxidize, they do not rust and have great longevity (typically up to 50 years).
2. Because the inside of the 20 polymer pipes is very polished and as a result, it does not deposit and will not have a pressure drop.
3. Because Bist Baspar polymer pipes can tolerate high pressure and heat, they can be used in heating systems (radiators).
4. Because the polymer nature of Bist Baspar products does not combine with acids and bases, they are suitable for the transfer of chemicals.
5. Because Bist Baspar polymer products have a very low opacity (or the quality of light passing), so algae do not live in them, the taste and smell of water will not change, and are quite suitable for drinking water.



## Bist Baspar five-layer butt-welded pipes

Bist Baspar five-layer butt-welded pipes are a combination of two-layer polymer, two-layer glue, and one-layer aluminum. It should be noted that when manufacturing the pipes, pex and polypropylene are used for the inner polymer layer and the outer polymer layer respectively.

This type of pipe, because of the use of aluminum in the middle layer, has a very low longitudinal expansion and a higher compressive and mechanical strength than single-layer pipes.

These pipes can be connected using single-layer fittings, and obviously to do this, the same method and connection steps described in the section of the single-layer pipe on pages 3-4 are used.

These pipes are an upgraded model for water supply systems with single-layer fittings.



**Note:** It is emphasized that the method of connecting the pipe to single-layer fittings is the same as the simple method for PP-R single-layer pipes and fittings.

**Welding guideline table consistent with standards**

pipe diameter mm	depth of fusion mm	heating time s	welding time s	cooling time s
20	14	5	4	2
25	15	7	4	2
32	16/5	8	6	2

**Specifications of five-layer butt-welded polymer pipes**

outer diameter mm	outer diameter inch	tolerance mm	thickness mm	tolerance mm	weight per unit length kg
20	1/2	+0/3	3/4	+0/6	0/193
25	3/4	+0/3	4/2	+0/7	0/320
32	1	+0/3	5/4	+0/8	0/433



## The proper method of fusing Bist Baspar five-layer butt-welded pipes



## Advantages of Bist Baspar five-layer butt-welded pipes

- Increasing the compressive and temperature strength of these pipes compared to PP-R pipes and three-layer polypropylene pipes reinforced with glass fiber
- Very low longitudinal expansion coefficient compared to PP-R single-layer pipes
- Quick and easy installation compared to polypropylene foil pipes because there is no need to scrape the outer layer.

## Application of Bist Baspar five-layer butt-welded pipes

- Sanitary hot and cold-water piping of buildings
- Heating systems piping
- Water transfer in risers
- Compressed air transfer systems
- Power supply systems for cooling towers and fan coil units





**Bist baspar**

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# Bist baspar





**Polypropylene pipes and fittings**  
[www.bistbasparco.com](http://www.bistbasparco.com)

## elbow 45°

code	size	pack
20350	20	320
20352	25	190
20354	32	100
20356	40	60
20358	50	30
20360	63	14



## Pipe

code	size	pack
20110	20	140
20112	25	100
20114	32	60
20116	40	40
20118	50	24
20120	63	16
20122	75	16
20124	90	12
20126	110	8



## tee

code	size	pack
20410	20	170
20412	25	110
20414	32	55
20416	40	35
20418	50	24
20420	63	11
20422	75	7
20424	90	3
20426	110	2



## 5-layer butt-welded pipe

code	size	pack
20130	20	120
20132	25	80
20134	32	40



## Elbow 90°

code	size	pack
20310	20	260
20312	25	150
20314	32	80
20316	40	45
20318	50	25
20320	63	14
20322	75	8
20324	90	3
20326	110	2



## reducing tee

code	size	pack
20441	25×20×20	110
20440	25×20×25	110
20442	25×25×20	110
20443	32×20×32	55
20444	32×25×32	55
20445	40×20×40	35
20446	40×25×40	35
20447	40×32×40	35
20448	50×20×50	24
20449	50×25×50	24
20450	50×32×50	24
20451	50×40×50	24
20452	63×20×63	10
20453	63×25×63	10
20454	63×32×63	10
20455	63×40×63	10
20456	63×50×63	10



## equal elbow

code	size	pack
20340	20×25	150
20342	32×20	80
20344	32×25	80



## reducing elbow

code	size	pack
20370	20	220
20372	25	160





## corner tee

code	size	pack
20430	20	170
20432	25	110



## metal bushing-in fitting

code	size	pack
20510	20×1/2	230
20512	25×1/2	180
20514	25×3/4	140
20516	32×1/2	90
20518	32×3/4	90
20520	32×1	90
20522	40×1×1/4	52
20524	50×1×1/2	36
20525	63×2	24
20526	75×2×1/2	15
20527	90×3	7
20528	110×4	-



## bushing fittings

code	size	pack
20210	20	350
20212	25	240
20214	32	140
20216	40	75
20218	50	45
20220	63	24
20222	75	20
20224	90	10
20226	110	5



## bushing-out nipple

code	size	pack
20610	20×1/2	180
20612	25×1/2	160
20614	25×3/4	120
20616	32×1/2	80
20618	32×3/4	80
20620	32×1	75
20622	40×1×1/4	40
20624	50×1×1/2	35
20625	63×2	20
20626	75×2×1/2	11



## reducing fitting

code	size	pack
20240	25×20	420
20241	32×20	300
20242	32×25	260
20243	40×20	190
20244	40×25	160
20245	40×32	140
20246	50×20	110
20247	50×25	110
20248	50×32	90
20249	50×40	70
20250	63×20	50
20251	63×25	50
20252	63×32	50
20253	63×40	50
20254	63×50	40
20255	75×40	30
20256	75×50	30
20257	75×63	30
20258	90×50	22
20259	90×63	22
20260	90×75	20
20261	110×63	12
20262	110×75	12
20263	110×90	12



## metal bushing-in elbow

code	size	pack
20530	20×1/2	140
20532	25×1/2	125
20534	25×3/4	110
20536	32×1/2	60
20538	32×3/4	60
20540	32×1	60
20542	40×1×1/4	32



## metal elbow with clip

code	size	pack
20550	20×1/2	100
20552	25×1/2	100
20554	25×3/4	80





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### double elbow

code	size	pack
20560	20×1/2	35
20562	25×1/2	32



### nipple tee

code	size	pack
20670	20×1/2	100
20672	25×1/2	80
20674	25×3/4	80



### metal nipple elbow

code	size	pack
20630	20×1/2	120
20632	25×1/2	100
20634	25×3/4	90
20636	32×1	50



### nipple tee with clip

code	size	pack
20690	20×1/2	80
20692	25×1/2	60
20694	25×3/4	60



### nipple elbow with clip

code	size	pack
20650	20×1/2	100
20651	20×3/4	90
20652	25×1/2	90
20654	25×3/4	70



### welded threaded pipe union

code	size	pack
20730	20	85
20732	25	75
20734	32	50



### metal tee

code	size	pack
20570	20×1/2	130
20571	20×3/4	100
20572	25×1/2	80
20574	25×3/4	80
20576	32×1/2	40
20578	32×3/4	40
20580	32×1	40
20582	40×1×1/4	25



### metal threaded pipe union

code	size	pack
20710	20	200
20712	25	150
20714	32	100
20716	40	55
20718	50	30
20720	63	16



### tee with clip

code	size	pack
20590	20×1/2	100
20592	25×1/2	70
20594	25×3/4	70



### coupling threaded pipe union

code	size	pack
20740	20	85
20742	25	75





### dual-mode ball valve

code	size	pack
20830	20	45
20832	25	45
20834	32	28
20836	40	18
20838	50	12
20840	63	8



### plastic long plug

code	size	pack
21610	20	160
21612	25	110
21614	32	70



### single open pipe clip

code	size	pack
21310	20	1000
21312	25	750
21314	32	450
21316	40	280



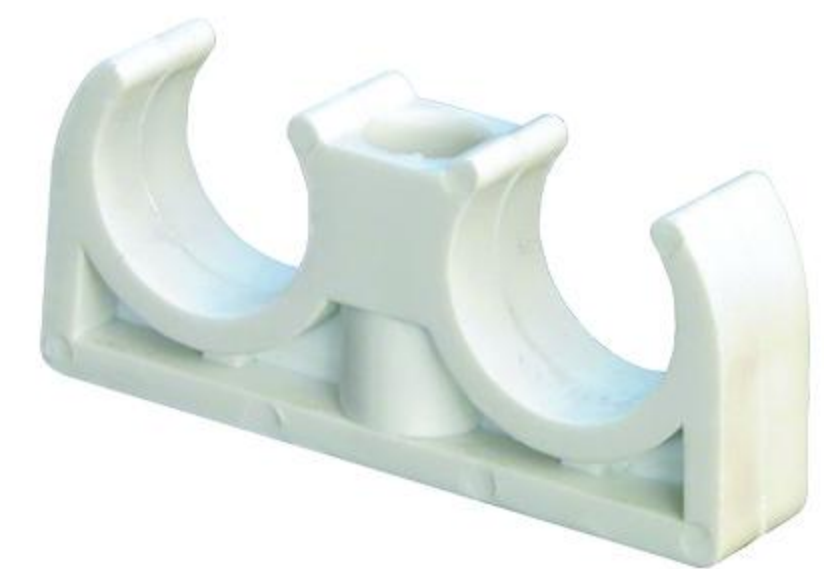
### (Gate) valve

code	size	pack
20810	20	60
20812	25	45
20814	32	30
20816	40	20



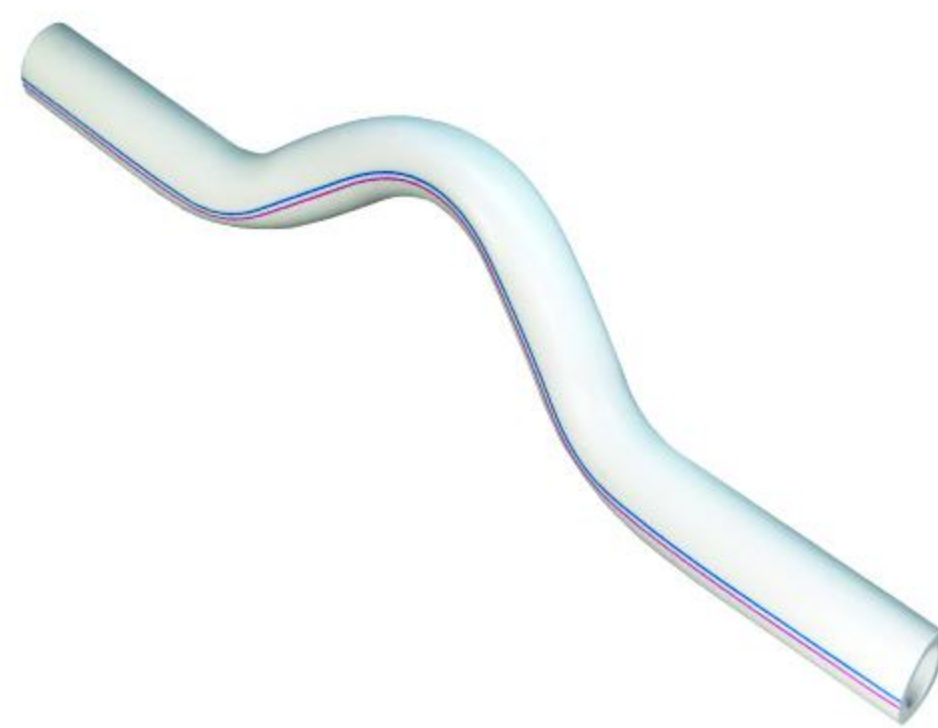
### double pipe clip

code	size	pack
21340	20	350
21342	25	300



### bend pipe fitting

code	size	pack
21210	20	60
21212	25	40
21214	32	25
21216	40	15



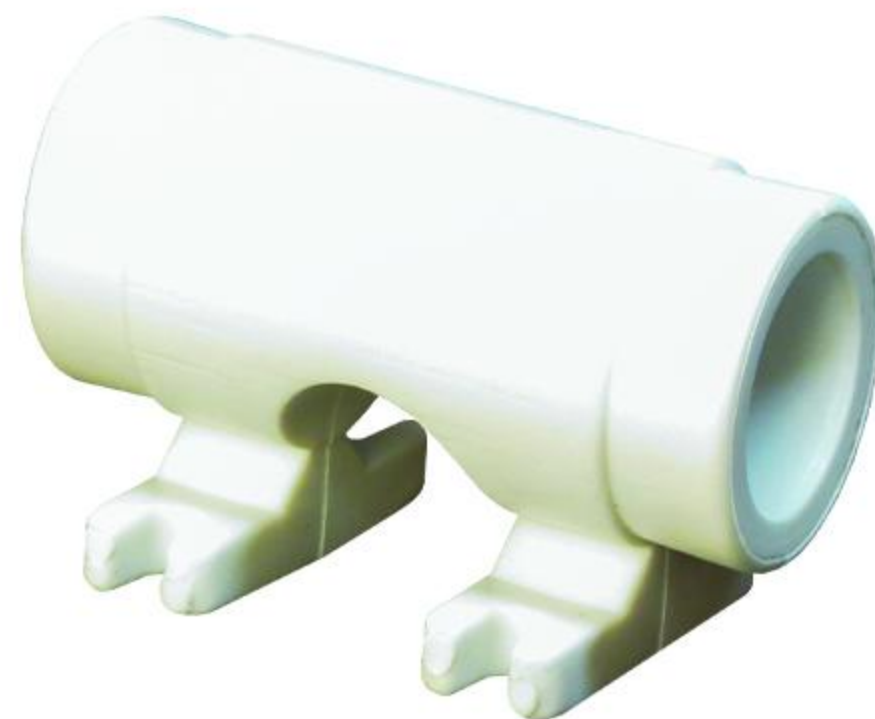
### stencil

code	size	pack
21810	20cm	300
21812	50cm	80



### short bridge fitting with clip

code	size	pack
21260	20	120
21262	25	85



### plug

code	size	pack
21540	20	650
21542	25	480
21544	32	250
21546	40	170
21548	50	90
21550	63	50
21552	75	34
21554	90	22



### threaded plug

code	size	pack
21510	20	1000
21512	25	600
21514	32	430

