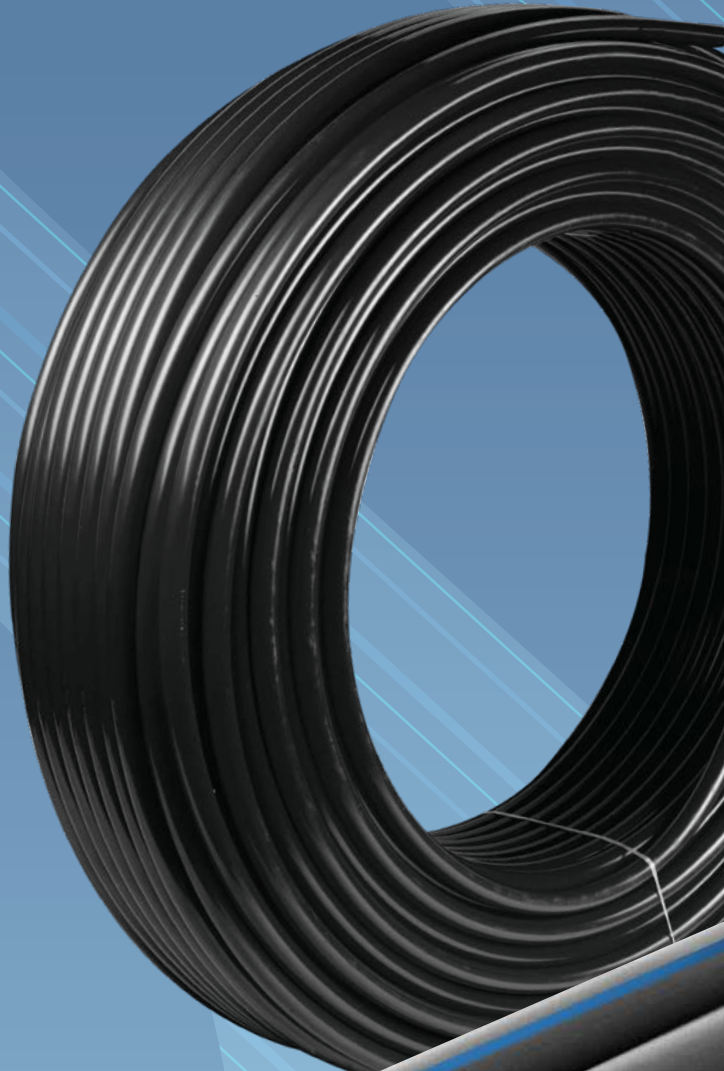




MS 1058-2:2005, MS 1058-3:2006, BS EN 12201-3

# HDPE SOCKET FUSION

## Pipes & Fittings



**We Build Solutions  
In Fusion Joints**



Print Edition for February 2020

# SANSICO HDPE Pipes

Pipe Brand: BBB SANSICO

SANSICO HANSEN HDPE pipes strictly conform to MS1058: Part 2: 2005 standard specifications. Our products are licensed by SIRIM and approved by the local water authorities to be used as the top mark for quality. The granting of the top make confirms that the company's manufacturing, testing and quality control systems comply with the stringent licensing requirements and thus ensures that the products quality is consistently maintained.

## Advantages for using SANSICO HDPE Pipe

Our pipes are SIRIM approved and manufactured using approved raw materials, high density polyethylene and comply to MS 1058. The main advantages of polyethylene pipes for the transport of pressure fluids can be summarised as follow:

- Ease, reliability and cost efficiency of jointing and laying operations.
- Non toxic, low abrasion and flexibility.
- Excellent resistance to water hammer phenomena.
- Absence of scale on inside walls results in consistency of pipeline hydraulic performance.
- Immune to corrosion phenomena and has very good resistance to a wide range of chemicals.

## Mechanical & Physical Characteristics

Characteristics	Test Parameters		Test Method	Type of Test	Test Results	Remarks
	Parameters	Value				
Hydrostatic strength at 20°C, MPa	Temperature	20°C	EN 921	Water-in-water	The pipe withstood the test pressure without any failure	Complied
	Period	100 hours				
	PE 80	10.0 MPa				
	PE 100	12.4 MPa				
Hydrostatic strength at 80°C, MPa	Temperature	80°C	EN 921	Water-in-water	The pipe withstood the test pressure without any failure	Complied
	Period	165 hours				
	PE 80	4.6 MPa				
	PE 100	5.5 MPa				
Hydrostatic strength at 80°C, MPa	Temperature	80°C	EN 921	Water-in-water	The pipe withstood the test pressure without any failure	Complied
	Period	1000 hours				
	PE 80	4.0 MPa				
	PE 100	5.0 MPa				
Elongation at break, %	Temperature	200°C	ISO 6259-3		≥ 350%	Complied
Melt mass-flow rate (MFR), g/10 min	Load	5.0 kg	ISO 1133		Change of MFR by processing < 25%	Complied
	Temperature	190°C				
Oxidation Induction Time (OIT), min (Thermal Stability)	Temperature	200°C	EN 728		≥ 20 min	Complied
Effect on Water Quality	Shall conform to MS 1583					Complied

Nominal Diameter (mm)	Outer Diameter (mm)		Wall Thickness (mm) PN 12.5 (SDR 13.6)		Wall Thickness (mm) PN 16 (SDR 11)	
	Min	Max	Min	Max	Min	Max
20	20.0	20.3	-	-	2.0	2.3
25	25.0	25.3	2.0	2.3	2.3	2.7
32	32.0	32.3	2.4	2.8	3.0	3.4
40	40.0	40.4	3.0	3.5	3.7	4.2
50	50.0	50.4	3.7	4.2	4.6	5.2
63	63.0	63.4	4.7	5.3	5.8	6.5
75	75.0	75.5	5.6	6.3	6.8	7.6
90	90.0	90.6	6.7	7.5	8.2	9.2
110	110.0	110.7	8.1	9.1	10.0	11.1









# HDPE SOCKET FUSION Fittings



SOCKET FUSION is generally used with pipe/fitting diameters of ½” (20mm) through 4” (110mm). This is a widely used technique for joining plastic piping systems using injection moulded fittings. The operating principles are straightforward, with the welding cycle basically consisting of a heating phase and a cooling/welding phase. To obtain a proper fusion, be sure to cut and mark the pipe to the proper insertion depth. The pipe and fitting are heated for a specified period, after which the pipe is inserted into the fitting to cool.

## Installation Method

<p><b>1 PREPPING</b></p>  <p>Select the right heating bushes and set the temperature to 260°C.</p>	<p><b>2 MARKING</b></p>  <p>Use a depth marker &amp; mark the required insertion depth. (refer to table 1)</p>	<p><b>3 CUTTING</b></p>  <p>Cut the pipe perpendicularly using a suitable pipe cutter. Clean the inside &amp; outside of the fitting &amp; pipe respectively with a clean or lint-free cloth. Do not touch cleaned surface with your hands.</p>
<p><b>4 INSERTING</b></p>  <p>Insert the pipe stiffener into the pipe. Use only for wall thicknesses below 3mm. (refer to manufacturer's specifications)</p>	<p><b>5 HEATING</b></p>  <p>Heat the fitting &amp; pipe simultaneously by pushing the fitting onto the male face &amp; the pipe into the female face of the heating bushes respectively. <b>DO NOT TWIST.</b> (refer to table 1)</p>	<p><b>6 FUSING</b></p>  <p>Remove pipe &amp; fitting simultaneously from the heating bushes using snap action. Then firmly slide the melted fitting squarely onto the pipe until it reaches the marked depth. <b>DO NOT TWIST.</b></p>

(refer to table 1) If the melt is not complete, do not continue with the joint. Cut off the melted pipe end, use a new fitting and start over from Step 1. Do not re-use a melted fitting.

**Table 1: Socket Fusion Welding Parameters**

OD (mm)	Insertion Depth (mm)	Heating Time (sec)	Fusion Time (sec)	Cooling Time (min)
20	14.0	5	4	2
25	15.0	7	4	2
32	16.5	8	6	4
40	18.0	12	6	4
50	20.0	18	6	4
63	23.0	24	8	6
75	27.5	30	8	8
90	32.0	40	8	8
110	38.0	50	10	8

# SANSICO HDPE Pipe Stiffener



HDPE Pipe Stiffeners are designed to support the interior wall of HDPE pipe for wall thickness below 3mm. This is applicable to pipe nominal diameters of 20mm up to 32mm. (Please refer to table 2) This is to prevent the pipe crumpling due to over-heating and excessive push-in force during installation.

**Table 2:**

Nominal (mm)	Outer Diameter (mm)		Wall Thickness (mm) PN 12.5 (SDR 13.6)		Wall Thickness (mm) PN 16 (SDR 11)	
	Min	Max	Min	Max	Min	Max
20	20.0	20.3	-	-	2.0	2.3
25	25.0	25.3	2.0	2.3	2.3	2.7
32	32.0	32.3	2.4	2.8	3.0	3.4

## Sansico Socket Fusion Welder

### SSW 32 (20mm-32mm)

### SSW 63 (20mm-63mm)



SANSICO socket fusion welder is suitable for joining a variety of plastic pipes and fittings for different applications in the industry. This machine can weld PE (Polyethylene), PE-RT (PE Raised Temperature), PP-R (Polypropylene Random), PB (Polybutene).

#### Manual Equipment

Manual socket welders for joining pipes and fittings, in compliance with the standards in force. They feature an aluminum heating plate and a practical, heat-insulated plastic handle. They can weld PE, PE-RT, HDPE, PP, PP-R, PVDF pipes and fittings and they're characterized by different shapes and working ranges, suitable for different applications. They're available with an adjustable electronic thermoregulator. This new TFE control system features a new self-diagnostic device, provided with an alarm, which would alert the operator in case of abnormally; at the same time, the heating element would switch off automatically. Thanks to an algorithm PID microcontroller, combined with a platinum sensor, the temperature control system can react faster to the external temperature fluctuations, and guarantee higher reliability and longer durability.

#### Technical Features

TYPE: TE, TFE	SSW 32	SSW 63
Working range	up to Ø 32 mm	up to Ø 63 mm
Materials	PE, PE-RT, HDPE, PP, PP-R PB, PVDF	
Power supply	230 V S. Ph. 50/60 Hz, 110 V S. Ph. 50/60 Hz	
Max, absorbed power	800 W	
Working temperature	180° to 290°C	
Ambient temperature	5° to 40°C	
Weight	1,82 Kg	
Dimensions	175 x 50 x 360 mm	

# SANSICO PE SOCKET FUSION Pipes & Fittings Product List

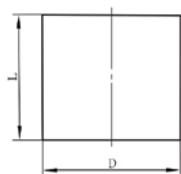
## HDPE Pipe PE100

Brand: BBB SANSICO



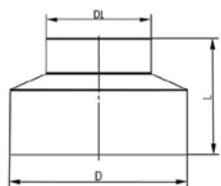
Pipe Sizes	Straight		Coil	
	5.8m/ length		100m/Coil	
	PN 16 (SDR 11)	PN 12.5 (SDR 13.6)	PN 16 (SDR 11)	PN 12.5 (SDR 13.6)
DN20	✓		✓	
DN25	✓	✓	✓	✓
DN32	✓	✓	✓	✓
DN40	✓	✓	✓	✓
DN50	✓	✓	✓	✓
DN63	✓	✓	✓	✓
DN75	✓	✓		
DN90	✓	✓		
DN110	✓	✓		
DN125	✓	✓		
DN160	✓	✓		

## Equal Coupler



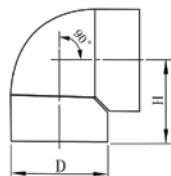
Code	Size	D (mm)	L (mm)
SF-EC 20	20	27	30
SF-EC 25	25	33	39
SF-EC 32	32	42	43
SF-EC 40	40	51	46
SF-EC 50	50	60	54
SF-EC 63	63	76	58
SF-EC 75	75	91	64
SF-EC 90	90	109	73
SF-EC 110	110	134	78

## Reducing Coupler



Code	Size	D (mm)	D1 (mm)	L (mm)
SF-RC 25.20	25 x 20	33	27	38
SF-RC 32.20	32 x 20	42	27	43
SF-RC 32.25	32 x 25	42	33	44
SF-RC 40.20	40 x 20	51	28	44
SF-RC 40.25	40 x 25	51	33	44
SF-RC 40.32	40 x 32	51	41	44
SF-RC 50.20	50 x 20	61	28	48
SF-RC 50.25	50 x 25	61	34	48
SF-RC 50.32	50 x 32	61	42	48
SF-RC 50.40	50 x 40	61	51	48
SF-RC 63.20	63 x 20	76	28	57
SF-RC 63.25	63 x 25	76	34	57
SF-RC 63.32	63 x 32	76	42	57
SF-RC 63.40	63 x 40	76	51	57
SF-RC 63.50	63 x 50	76	62	58
SF-RC 75.20	75 x 20	87	26	60
SF-RC 75.25	75 x 25	87	32	65
SF-RC 75.32	75 x 32	87	41	64
SF-RC 75.40	75 x 40	87	50	67
SF-RC 75.50	75 x 50	87	60	68
SF-RC 75.63	75 x 63	87	75	68
SF-RC 90.40	90 x 40	104	50	63
SF-RC 90.50	90 x 50	104	60	63
SF-RC 90.63	90 x 63	104	76	71
SF-RC 90.75	90 x 75	104	87	71
SF-RC 110.40	110 x 40	127	50	71
SF-RC 110.50	110 x 50	127	60	70
SF-RC 110.63	110 x 63	127	76	74
SF-RC 110.75	110 x 75	127	87	76
SF-RC 110.90	110 x 90	127	104	77

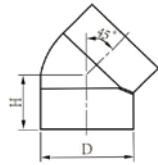
## 90° Equal Elbow



Code	Size	D (mm)	L (mm)
SF-90°EE 20	20	27	28
SF-90°EE 25	25	34	32
SF-90°EE 32	32	42	27
SF-90°EE 40	40	50	40
SF-90°EE 50	50	61	49
SF-90°EE 63	63	76	60
SF-90°EE 75	75	92	70
SF-90°EE 90	90	110	82
SF-90°EE 110	110	135	95

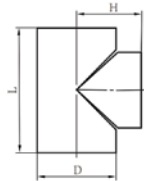
# SANSICO PE SOCKET FUSION Pipes & Fittings Product List

## 45° Elbow



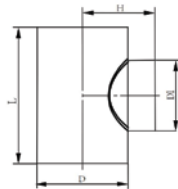
Code	Size	D (mm)	H (mm)
SF-45°EE 20	20	27	21
SF-45°EE 25	25	33	24
SF-45°EE 32	32	42	28
SF-45°EE 40	40	47	39
SF-45°EE 50	50	54	46
SF-45°EE 63	63	75	54
SF-45°EE 75	75	87	64
SF-45°EE 90	90	105	74
SF-45°EE 110	110	128	86

## Equal Tee



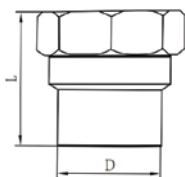
Code	Size	D (mm)	H (mm)	L (mm)
SF-ET 20	20 x 20 x 20	27	28	54
SF-ET 25	25 x 25 x 25	34	32	63
SF-ET 32	32 x 32 x 32	42	37	74
SF-ET 40	40 x 40 x 40	50	46	80
SF-ET 50	50 x 50 x 50	61	48	95
SF-ET 63	63 x 63 x 63	76	68	127
SF-ET 75	75 x 75 x 75	90	68	134
SF-ET 90	90 x 90 x 90	107	86	168
SF-ET 110	110 x 110 x 110	132	96	195

## Reducing Tee



Code	Size	D (mm)	L (mm)	D1 (mm)	H (mm)
SF-RT 25.20	25 x 20	33	58	27	31
SF-RT 32.20	32 x 20	42	63	27	33
SF-RT 32.25	32 x 25	42	69	33	36
SF-RT 40.20	40 x 20	50	59	26	36
SF-RT 40.25	40 x 25	50	65	30	38
SF-RT 40.32	40 x 32	50	70	41	40
SF-RT 50.20	50 x 20	61	68	26	42
SF-RT 50.25	50 x 25	61	77	34	45
SF-RT 50.32	50 x 32	61	83	42	45
SF-RT 50.40	50 x 40	61	91	50	46
SF-RT 63.20	63 x 20	77	70	26	48
SF-RT 63.25	63 x 25	77	76	31	50
SF-RT 63.32	63 x 32	77	82	41	52
SF-RT 63.40	63 x 40	77	91	50	53
SF-RT 63.50	63 x 50	77	100	61	58
SF-RT 75.20	75 x 20	87	80	29	56
SF-RT 75.25	75 x 25	87	87	34	58
SF-RT 75.32	75 x 32	87	91	40	57
SF-RT 75.40	75 x 40	87	100	50	62
SF-RT 75.50	75 x 50	87	112	61	65
SF-RT 75.63	75 x 63	87	130	76	67
SF-RT 90.40	90 x 40	107			
SF-RT 90.50	90 x 50	107	120	61	70
SF-RT 90.63	90 x 63	107	147	76	80
SF-RT 90.75	90 x 75	107	151	90	81
SF-RT 110.40	110 x 40	132	136	48	77
SF-RT 110.50	110 x 50	132	137	60	88
SF-RT 110.63	110 x 63	132	159	76	100
SF-RT 110.75	110 x 75	132	161	90	101
SF-RT 110.90	110 x 90	132	177	107	91

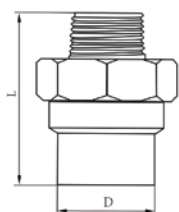
## Female Threaded Coupling



Code	Size	D (mm)	L (mm)
SF-FTC 20.1/2"	20 x 1/2"	27	41
SF-FTC 20.3/4"	20 x 3/4"	27	43
SF-FTC 25.1/2"	25 x 1/2"	33	44
SF-FTC 25.3/4"	25 x 3/4"	33	46
SF-FTC 32.1/2"	32 x 1/2"	41	39
SF-FTC 32.3/4"	32 x 3/4"	41	43
SF-FTC 32.1"	32 x 1"	41	50
SF-FTC 40.1 1/4"	40 x 1 1/4"	50	52
SF-FTC 50.1 1/2"	50 x 1 1/2"	60	54
SF-FTC 63.2"	63 x 2"	77	64
SF-FTC 75.2 1/2"	75 x 2 1/2"	90	70
SF-FTC 90.3"	90 x 3"	108	82
SF-FTC 110.4"	110 x 4"	131	85

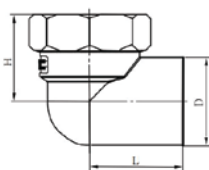
# SANSICO PE SOCKET FUSION Pipes & Fittings Product List

## Male Threaded Coupling



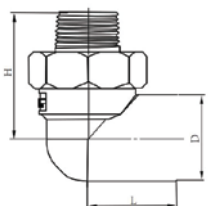
Code	Size	D (mm)	L (mm)
SF-MTC 20.1/2"	20 x 1/2"	27	58
SF-MTC 20.3/4"	20 x 3/4"	27	55
SF-MTC 25.1/2"	25 x 1/2"	33	58
SF-MTC 25.3/4"	25 x 3/4"	33	60
SF-MTC 32.1/2"	32 x 1/2"	41	52
SF-MTC 32.3/4"	32 x 3/4"	41	55
SF-MTC 32.1"	32 x 1"	41	65
SF-MTC 40.1 1/4"	40 x 1 1/4"	51	70
SF-MTC 50.1 1/2"	50 x 1 1/2"	60	72
SF-MTC 63.2"	63 x 2"	76	83
SF-MTC 75.2 1/2"	75 x 2 1/2"	90	94
SF-MTC 90.3"	90 x 3"	107	105
SF-MTC 110.4"	110 x 4"	131	115

## Female Threaded Elbow



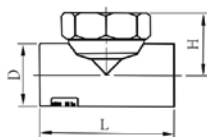
Code	Size	D (mm)	H (mm)	L (mm)
SF-FTE 20.1/2"	20 x 1/2"	27	32	32
SF-FTE 20.3/4"	20 x 3/4"	27	32	30
SF-FTE 25.1/2"	25 x 1/2"	33	34	33
SF-FTE 25.3/4"	25 x 3/4"	33	36	35
SF-FTE 32.1/2"	32 x 1/2"	41	39	30
SF-FTE 32.3/4"	32 x 3/4"	41	39	35
SF-FTE 32.1"	32 x 1"	41	40	36
SF-FTE 40.1 1/4"	40 x 1 1/4"	50	47	45
SF-FTE 50.1 1/2"	50 x 1 1/2"	63	54	52
SF-FTE 63.2"	63 x 2"	77	67	61

## Male Threaded Elbow



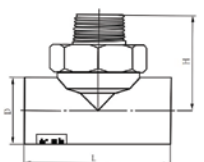
Code	Size	D (mm)	H (mm)	L (mm)
SF-MTE 20.1/2"	20 x 1/2"	27	46	32
SF-MTE 20.3/4"	20 x 3/4"	27	46	32
SF-MTE 25.1/2"	25 x 1/2"	33	48	33
SF-MTE 25.3/4"	25 x 3/4"	33	48	35
SF-MTE 32.1/2"	32 x 1/2"	41	51	31
SF-MTE 32.3/4"	32 x 3/4"	41	52	34
SF-MTE 32.1"	32 x 1"	41	55	36
SF-MTE 40.1 1/4"	40 x 1 1/4"	50	67	45
SF-MTE 50.1 1/2"	50 x 1 1/2"	63	69	52
SF-MTE 63.2"	63 x 2"	77	79	61

## Female Threaded Tee



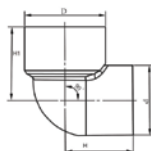
Code	Size	D (mm)	H (mm)	L (mm)
SF-FTT 20.1/2"	20 x 1/2"	27	31	51
SF-FTT 25.1/2"	25 x 1/2"	33	33	58
SF-FTT 25.3/4"	25 x 3/4"	33	34	60
SF-FTT 32.1/2"	32 x 1/2"	41	37	61
SF-FTT 32.3/4"	32 x 3/4"	41	40	67
SF-FTT 32.1"	32 x 1"	41	41	72

## Male Threaded Tee



Code	Size	D (mm)	H (mm)	L (mm)
SF-MTT 20.1/2"	20 x 1/2"	27	45	52
SF-MTT 25.1/2"	25 x 1/2"	33	47	58
SF-MTT 25.3/4"	25 x 3/4"	33	48	60
SF-MTT 32.1/2"	32 x 1/2"	41	51	61
SF-MTT 32.3/4"	32 x 3/4"	41	52	67
SF-MTT 32.1"	32 x 1"	41	55	72

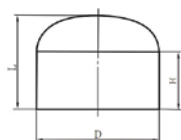
## Reducing Elbow



Code	Size	D (mm)	d (mm)	H (mm)	H1 (mm)
SF-RE 25.20	25 x 20	34	28	27	31
SF-RE 32.20	32 x 20	42	28	32	32
SF-RE 32.25	32 x 25	42	34	33	36
SF-RE 40.32	40 x 32	52	42	39	42
SF-RE 50.40	50 x 40	63	52	46	52
SF-RE 63.50	63 x 50	80	63	54	58

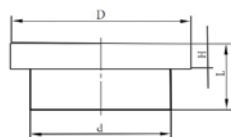
# SANSICO PE SOCKET FUSION Pipes & Fittings Product List

## End Cap



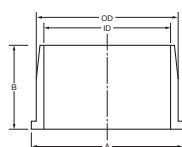
Code	Size	D (mm)	H (mm)	L (mm)
SF-ECP 20	20	27	18	20
SF-ECP 25	25	33	20	23
SF-ECP 32	32	42	23	25
SF-ECP 40	40	51	27	28
SF-ECP 50	50	63	29	31
SF-ECP 63	63	76	31	41
SF-ECP 75	75	91	32	51
SF-ECP 90	90	108	51	69
SF-ECP 110	110	126	45	59

## Stub End (Flange Adapter)



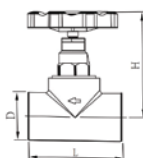
Code	Size	D (mm)	d (mm)	L (mm)	H (mm)
SF-SE 50	50	85	63	30	14
SF-SE 63	63	98	78	34	14
SF-SE 75	75	121	94	40	15
SF-SE 90	90	125	110	44	17
SF-SE 110	110	160	126	50	20

## Pipe Stiffener



Code	Pipe	OD	ID	A	H (B)
SF-PS 20-PN16	20mm PN16	16.0	14.0	17.5	10.0
SF-PS 25-PN12.5	25mm PN12.5	21.0	18.0	23.0	16.0
SF-PS 25-PN16	25mm PN16	20.0	18.0	22.0	11.5
SF-PS 32-PN12.5	32mm PN12.5	27.0	24.0	29.0	16.0
SF-PS 32-PN16	32mm PN16	25.5	22.5	27.5	13.5

## Stop Valve



Code	Size	D (mm)	H (mm)	L (mm)
SF-SV 20	20	28	56	54
SF-SV 25	25	34	73	61
SF-SV 32	32	43	80	63
SF-SV 40	40	51	85	60
SF-SV 50	50	63	96	68
SF-SV 63	63	75	115	74

## Chrome Cross Handle Stop Valve



Code	Size
SF-CSV 20	20
SF-CSV 25	25
SF-CSV 32	32

## Repair Heating Bushes



Code	Size
SF-RR7	7
SF-RR11	11

## PE Repair Rods



Code	Size
SF-RR7/11	7-11

## Socket Fusion Welder



Code	Size
SSW-32	20-32mm
SSW-63	20-63mm



# Product Warranty

Sansico Industries Sdn Bhd warrants its materials to be free of defects in workmanship and under normal use, service and when used for the purposes under the conditions for which they are intended.

This warranty shall not apply to any Sansico Industries Sdn Bhd material that has been altered, repaired and/or used in any way, stored outside, or has been subject to misuse, negligence, accident and/or has not been installed in accordance with installation instructions.

The obligation of Sansico Industries Sdn Bhd under this warranty shall be limited to the replacement of any part that may prove defective under normal use.

Sansico Industries Sdn Bhd shall not be liable for indirect, special, incidental or consequential damage or penalties and does not assume any liability of purchaser to others, or to anyone for injury to persons and/or property.

Any claim regarding shortage or damages from shipment of material must be submitted in writing to Sansico Industries Sdn Bhd within 10 days after receipt of shipment. Buyer shall note loss or damage on delivery order and provide a delivery receipt stating such with driver's signature.

Purchaser is responsible for passing on this Limited Warranty to their customer.

## Installation

Installation instructions must be adhered to, or our Product Warranty is null and void. Installation of socket fusion fittings must be carried out by properly trained and qualified operator(s) and/or by witness of the factory representative.

Sansico Industries Sdn Bhd shall have the right to inspect the said material and purchaser shall, if requested, return defective product prepaid to the Sansico Industries Sdn Bhd Purchaser shall assume all responsibility and expenses for removal, reinstallation and freight charges in connection with the foregoing remedy.



# Notes

# About Us

SANSICO Industries Sdn Bhd have grown rapidly to become a leader in the supply of HDPE (High Density Polyethylene) pipes and fittings in Malaysia and have over 15 years of experience in the thermoplastic pipe and fitting industry. Sansico are committed to providing innovative, quality products and services throughout all of our product offerings. Our dedication drives the values that we strive to live up to daily at Sansico. We hold teamwork, innovation, accountability, integrity, mutual trust and respect, and a desire to continuously improve our quality above all else. We are also very customer-centric, aspiring to make the Sansico experience the best it can be for all of our customers.

We provide durable and yet affordable polyethylene HDPE pipes and fittings. All Sansico products are made to meet and exceed stringent certification standards and, above all, the needs and demands of professional installers. Our goal is to offer our customers outstanding guaranteed fittings and pipes for a very competitive price.

We take great pride in the people we hire, train, and promote. We have a specialized team with knowledge in fusion procedures and maintenance experience. We offer technical site support and we stand by our product. At SANSICO Industries Sdn Bhd customer satisfaction is our #1 priority.



**Sansico Industries Sdn Bhd** (448766-D)

No. 20, Jalan Uranus AK U5/AK,  
Taman Subang Impian, Seksyen U5,  
40150 Shah Alam, Selangor.

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Tel : (603) 7859 7299 (**Hunting Line**)

Fax : (603) 7859 0299

E-mail : [enquiry@sansico.com.my](mailto:enquiry@sansico.com.my)

Website : [www.sansico.com.my](http://www.sansico.com.my)

