



SANSOTM
Complete Sanitary Solutions



PPR-C
Pipes & Fittings

PPR-C

PPR-C is abbreviation of '**POLY PROPYLENE RANDOM CO-POLYMER**'. This is a high weight molecular based product, specially developed for hot and cold plumbing applications. It's low melt flow index & low thermal conductivity makes it superior than metal pipes & fittings.

PPR-C is a comparatively new revolution in Indian sanitary market, though it has taken already a huge success in Europe and Middle East, which are climatically very tough regions. Now Indian customers are also shifting to PPR-C from traditional G.I. pipes & fittings.

Sanso Products confirms with the draft of the additives list of Europe commission and Europe-Directives.

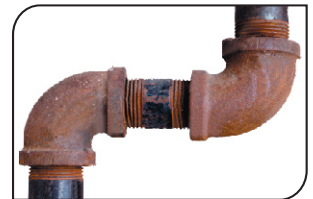
Sanso PPR-C Plumbing System neither requires any kind of threading nor any type of solvent for joining the pipe and fittings, rather it follows heat fusion jointing procedure which ensures homogeneous leak proof joints.

Sanso Products are hygienic because its raw material is food grade and confirm to the IS:9845 standard. Due to its soft inner wall scaling and fungus could not be formed in it.

ADVANTAGE OF **SANSO** PLUMBING SYSTEM

Sanso PPR-C does have several qualities those make it superior then other existing plumbing systems. Here we would like to give you a brief description about the few advantages of Sanso PPR-C Products.

Corrosion Resistant : The process of corroding is a biggest problem with any metal pipe fitting. Due to scaling issue, metal line generally face the clogging problem. PPR-C material has better corrosion resistance power and its high weight molecular system makes it scaling and rust free plumbing system.



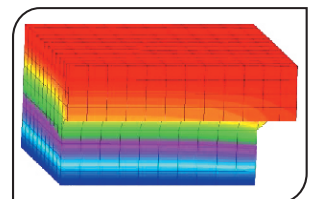
Leak Proof Jointing : PPR-C pipe & fittings follows heat fusion jointing system that gives homogeneous joints which ensure 100% leakproof joints.



Hygienic Product : Sanso PPR-C is a nontoxic & anti microbial product. Sanso PPR-C pipe system is absolute safe for drinking water. We can use this plumbing system in ground as well as inside the water because of its bacteriological neutral nature.

Smooth Inside Wall : Co-efficient of friction for PPR-C is just 0.0070 mm that reduces the pressure drop value for Sanso PPR-C plumbing system. It's inside wall is very smooth and that gives very little pressure loss and also reduces the pumping cost to transport any liquid or water.

Good Thermal Conductivity : Co-efficient value of thermal conductivity for PPR-C is just 0.24 W/MK and that ensures lower heat losses when we use it with geyser. In case of centralized heating system or with electric geyser system, Sanso PPR-C may save up to 15% on electricity cost.



Long life : Long term performance of piping material under specific



water pressure can be determined and validated using hydrostatic time to rupture curves. Artificial ageing tests performed in the laboratory indicate that the Sanso PPR-C pipe has a working life of more than 50 years.

PHYSICAL PROPERTIES OF **SANSO** PPR-C PRODUCTS

Density :

PPR-C has a density of just 0.897 g/cm³.at a temperature of 23°C, it makes it much economic to transport and easier to handle during installation comparatively then metal pipes.

Properties related to Mechanical strength :

Property	Test Method	Units	Typical Value
Tensile Strength at yield (50 mm/min)	ASTMD638	MPa	27
Elongation at yield (50 mm/min)	ASTMD638	%	14
Elongation at Break (50 mm/min)	ASTMD638	%	>500
Notched Izod Impact Strength (23°C)	ASTMD256	J/m	550
Type of Break	–		No Break
Vicat Softening Point	ASTMD1525	°C	130
Heat Deflection Temperature (455 kPa)	ASTMD648	°C	92

Combustion & Burning Point :

Sanso PPR-C Pipe & Fitting's Combustion point is 330°C & its burning point is 360°C.

Thermal Expansion :

When ever a pipe line is being used at variation of temperatures then its length may expands or contracts. This change in length is proportional to the unit linear coefficient of thermal expansion. The expansion and contraction adjustment of Sanso PPR-C pipe line is generally made in longitudinal direction only. Any linear expansion or contraction caused by a thermal gradient can easily be calculated using the following formula :

$$\Delta L = \alpha \times L \times \Delta T$$

ΔL = Expansion or Contraction of length in mm.

L = Initial Pipe length in Meter.

α = Coefficient factor and i.e. 0.15 mm/M°C for PPR-C

ΔT = Difference of temperature in °C

Sanso PPR-C Pipe line Length (L) Meter	Temperature Difference (ΔT) °C					
	10	20	30	40	50	60
1.0	1.50	3.0	4.5	6.0	7.5	9.0
2.0	3.00	6.00	9.00	12.00	15.00	18.0
3.0	4.5	9.0	13.5	18.0	22.5	27.0
4.0	6.0	12.0	18.0	24.0	30.0	36.0
5.0	7.5	15.0	22.50	30.0	37.5	45.0

DIMENSION OF **SANSO** PPR-C PIPE AS PER IS:15801

Sl. No.	Size Inches	SIZE OD mm	SDR 11		Size ID mm	C		Size ID mm	SDR 6		Size ID mm	SDR 5		Size ID mm
			Min.	Max.		Min.	Max.		Min.	Max.		Min.	Max.	
1.	--	16	--	--	--	2.2	2.7		2.7	3.2		3.3	3.9	
2.	1/2"	20	1.9	2.3	16.2	2.8	3.3	14.4	3.4	4	13.2	4.1	4.8	11.8
3.	3/4"	25	2.3	2.8	20.4	3.5	4.1	18	4.2	4.9	16.6	5.1	5.9	14.8
4.	1"	32	2.9	3.4	26.2	4.4	5.1	23.2	5.4	6.2	21.2	6.5	7.4	19
5.	1-1/4"	40	3.7	4.3	32.6	5.5	6.3	29	6.7	7.6	26.6	8.1	9.2	23.8
6.	1-1/2"	50	4.6	5.3	40.8	6.9	7.8	36.2	8.3	9.4	33.4	10.1	11.4	29.8
7.	2"	63	5.8	6.6	51.4	8.6	9.7	45.8	10.5	11.8	42	12.7	14.2	37.6
8.	2-1/2"	75	6.8	7.7	61.4	10.3	11.6	54.4	12.5	14	50	15.1	16.9	44.8
9.	3"	90	8.2	9.3	73.6	12.3	13.8	65.4	15	16.7	60	18.1	20.2	53.8
10.	4"	110	10	11.2	90	15.1	16.9	79.8	18.3	20.4	73.4	22.1	24.6	65.8
11.	4.5"	125	11.4	12.8	102.2	17.1	19.1	90.8	20.8	23.1	83.4	25.1	27.9	74.8
12.	5"	140	12.7	14.2	114.6	19.2	21.4	101.6	23.3	25.9	93.4	28.1	31.2	83.8
13.	5.5"	160	14.6	16.3	130.8	21.9	24.3	116.2	26.6	29.5	106.8	32.1	35.6	95.8
14.	6"	180	16.4	18.3	147.2	24.6	27.3	130.8	29	32.1	122	36.1	40	107.8
15.	6.5"	200	18.2	20.3	163.6	27.4	30.4	145.2	33.2	36.8	133.6	--	--	--

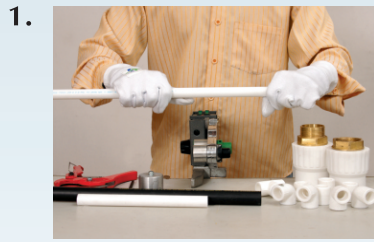
FIELD OF APPLICATION

Sanso Pipes and fittings can be used for the following applications :

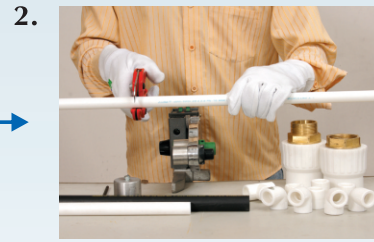
1. To transport the hot & cold water in residential buildings, commercial sites, hotels, hospitals, Colleges etc.
2. Pipe network utilized for drinking water transportation in a town or city.
3. Pipe network built for rainwater harvesting systems, swimming pools, solar heating stations, water treatment plants etc.
4. Heating Pipes for Central heating system in any residential or commercial building.
5. Pipe lines for Liquid food transportation, compressed air supply systems, chemical industries, ammonia plants, petroleum plants, oil plants, mineral water plants etc.



ASSEMBLY PROCEDURE OF **SANSO** PPR-C PIPE & FITTINGS



Clean the welding tools with a clean piece of cloth & alcohol water mixture.



Cut the pipe to the required length by a cutter.



Remove the pipe & fitting from die at once & joint them immediately without turning.



Push the pipe & fitting simultaneously towards the welding die to make them in semi melt position.

5. Put them hold for the specified cooling period.

INFORMATION

THE DURATION OF WELDING & COOLING PERIODS

OUTSIDE DIAMETER	DEPTH OF WELDING (mm)	DURATION OF HEATING PERIOD (SEC)		DURATION OF WELDING PERIOD (SEC)	DURATION OF COOLING PERIOD (MIN)
20	14	5	8	4	2
25	15	7	11	7	2
32	17	8	12	8	4
40	18	12	18	15	4
50	20	12	18	15	6
63	26	24	36	24	6
75	29	30	45	24	6
90	32	40	60	32	6
110	35	50	75	38	8

Important points for assembly of Sanso PPR-C Pipe & Fittings :

1. Temperature of welding machine should always be between 250°C to 265°C.
2. In case welding tools, pipes or fittings are dirty, clean up them with a clean piece of cloth and alcohol-water mixture.
3. Pipe & fitting should be joint without any turning.
4. Do not interfere with welding area of pipe & fittings during cooling time.
5. Insert the pipe into fittings only up to the welding depth of fittings otherwise excessive material would accumulate on the surface and that reduce the diameter of the hole.

PRODUCT STANDARDS

To assure a high quality level, Sanso Products follow strict quality standards. Following are few of those standards which company follows during the manufacturing.

Protocol adopted

Description of the Standard

DIN : 8077

To check the dimensions of Sanso pipes.

DIN : 8078

To ensure the general quality of Sanso pipes like creep strength, impact strength, surface finish and heat reversion test.

ASTM D 1238

To check the melt flow index of the raw material.

 **IS : 9845-1998**

Method to determine plastic materials and articles intended to come into contact with food items.

 **IS : 15801-2008**

To ensure the quality of Sanso Pipes as per ISI Standard.

DIN : 16962

Pipe joint assemblies and fittings for pressure pipes injection molded fittings.

AUTHENTICATION OF **SANSO** PRODUCTS

Sanso products are tried and tested not only in real life but also certified by the different government approved test houses.



SANITARY SOLUTIONS

Regional Mktg. Office : C-1, IInd Floor, Medi Centre,
Eves Crossing, Meerut-250 002.

Ph.: 0121-4003354, 09358812340, 09917000077

info@sansopipes.com

www.sansopipes.com