



# C.R.I. PIPES

*Quality in every inch*

## ONE STOP PIPING SOLUTION







## **Vision, Mission and Values**

To be the industry leader providing best-in-class fluid management solutions to individual and institutional customers and societies in our chosen markets.

We will achieve this through our dedicated efforts to enhance the welfare of all our stakeholders and by living by our values of **Commitment, Reliability** and **Innovation**.





## ABOUT C.R.I.



C.R.I. ranks high among the world's fastest-growing fluid management solutions provider with a wide global presence. C.R.I. offers Pumps, Motors, IoT Driven Pumps, IoT Drives & Controllers, Pipes, Wires & Cables, Solar Pumps and Controllers to meet the pumping needs of its wide customer base.



**60+** Years  
of Engineering  
Expertise



**120+** Countries  
have our strong  
global presence



**21+**  
Manufacturing Units  
around the World



**30000+** Outlets  
to serve our  
Customers



**9000+**  
Products for various  
applications



**1500+**  
Service Centres to  
support our Customers



**18 Times**  
EEPC Award Winner  
for Export Excellence



**8 Times**  
NEC Award Winner  
for Energy Savings



**Fludyn Advanced  
Technology Centre**  
Recognized by Ministry of  
Science & Technology,  
Govt. of India.

**C.R.I. PIPES** - C.R.I.'s state-of-the-art manufacturing facility at Ahmedabad & Hosur produces all kinds of best quality PVC, UPVC, CPVC Pipes & Fittings. The plants are empowered with fully automated machines that control the manufacturing process.

**C.R.I. WIRES & CABLES** - C.R.I.'s Wires & Cables are manufactured at its state-of-the-art manufacturing facility. The systems at the manufacturing facility are ISO-9001 certified and the products manufactured to meet the relevant standards.

**C.R.I. SOLAR PUMPING SYSTEM** - C.R.I. manufactures sustainable Solar Pumping Systems designed to work with best in class efficiency. With this C.R.I. emphasizes its focus towards greener technology.

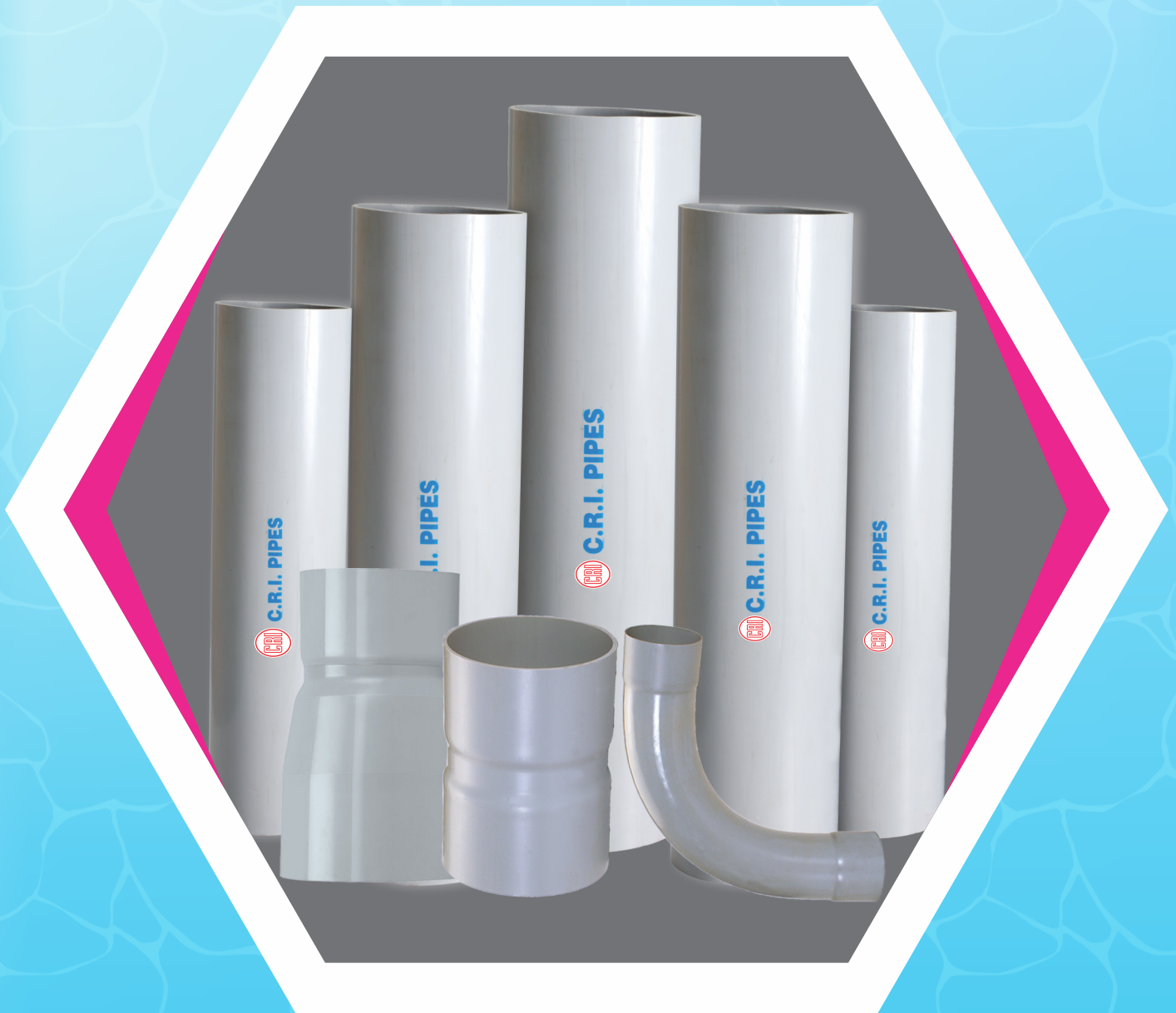




# uPVC PRESSURE PIPES & FITTINGS

## For potable water supply & Irrigation

uPVC pressure pipes are manufactured as per IS4985:2000 standard available in 20mm to 400mm sizes in different pressure class. Pipes in solvent cement type and rubber seal type available with varieties of moulded fittings and wide range of fabricated fittings. Moulded fittings are manufactured as per IS 7834 and fabricated fittings are manufactured as per IS 10124 standards. These pipes and fittings are used for variety of applications like, agriculture, Irrigation, water supply, Industrial process lines, swimming pools and fire fighting mains etc.,





## FEATURES

**Non-Toxic and Hygienic** - These pipes are most ideal for carrying potable water.

**Corrosion resistance** - These pipes are not affected by chemical, electrolytic and galvanic action, hence free from corrosion.

**Smooth surface** - Pipes are having mirror smooth inner surface and hence better flow characteristics in comparison to AC, CI & GI pipes.

**Fire resistance** - C.R.I. uPVC pressure pipes are fire resistant and self-extinguishing.

**Maintenance free** - These pipes & fittings are free from corrosion, rust, weathering & leakage and ensures years of trouble free performance.

**Strong & Light Weight** - The pipes are light in weight for easy handling and have good mechanical strength & toughness.

**Longer Life** - The system is free from weaknesses caused by rusting, weathering and chemical action, and hence lasts for a lifetime.

## TECHNICAL DETAILS

### Dimensions of uPVC pressure pipes as per IS 4985:2000

Nominal Outside Diameter (Nominal Size)	Mean Outside Diameter		WALL THICKNESS													
			Class 1 0.25 MPa		Class 2 0.4 MPa		Class 3 0.6 MPa		Class 4 0.8 MPa		Class 5 1.0 MPa		Class 6 1.25 MPa		Plumbing Pipes	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
20	20.0	20.3	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8	2.8	3.3
25	25.0	25.3	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	2.9	3.4
32	32.0	32.3	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	3.4	3.9
40	40.0	40.3	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	3.6	4.2
50	50.0	50.3	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	3.7	4.3
63	63.0	63.3	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	-	-
75	75.0	75.3	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	-	-
90	90.0	90.3	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	-	-
110	110.0	110.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	-	-
125	125.0	125.4	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.9	8.0	8.5	9.8	-	-
140	140.0	140.5	2.0	2.4	3.2	3.8	4.8	5.5	6.3	7.3	7.7	8.9	9.5	11.0	-	-
160	160.0	160.5	2.3	2.8	3.7	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	-	-
180	180.0	180.6	2.6	3.1	4.2	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	-	-
200	200.0	200.6	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.6	15.7	-	-
225	225.0	225.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	-	-
250	250.0	250.8	3.6	4.2	5.7	6.5	8.5	9.8	11.2	12.9	13.8	15.9	17.0	19.6	-	-
280	280.0	280.9	4.1	4.8	6.4	7.4	9.5	11.0	12.5	14.4	15.4	17.8	19.0	21.9	-	-
315	315.0	316.0	4.6	5.3	7.2	8.3	10.7	12.4	14.0	16.1	17.3	19.9	21.4	24.7	-	-
355	355.0	356.1	5.1	5.9	8.1	9.4	12.0	13.8	15.8	18.2	19.6	22.6	24.1	27.8	-	-
400	400.0	401.2	5.8	6.7	9.1	10.5	13.5	15.6	17.8	20.5	22.0	25.3	27.2	31.3	-	-

Note : The wall thickness of pipe is based on a safe working stress of 8.6 MPa at 27°C. The working pressure gets reduced at sustained higher temperatures. Occasional rise in temperature, as in summer, with concurrent corresponding reduction in temperature during nights has no deleterious effect on the working pressure of the pipes considering the total life of pipe.





## RINGFIX UPVC PRESSURE PIPES WITH SEALING RING

Ringfix uPVC Pressure Pipes are specially designed for higher dia-meter requirements and wash out the need of solvent cement. The sealing ring ensures leak-proof joints and easy installation. The entire range of Ringfix uPVC pressure pipes are available from 63 mm to 400 mm diameter, in 4, 6, 8 and 10 kgf / cm<sup>2</sup> working pressure classes.

### ADVANTAGES

- Even in extreme temperature variations the rubber ring absorbs the linear expansion and contraction leaving the seal intact.
- Deflection of pipes due to various reasons like shifting of soil, land contour can be easily accommodated upto 2° per joint.
- Easy, convenient installation.
- No need for solvent cement.

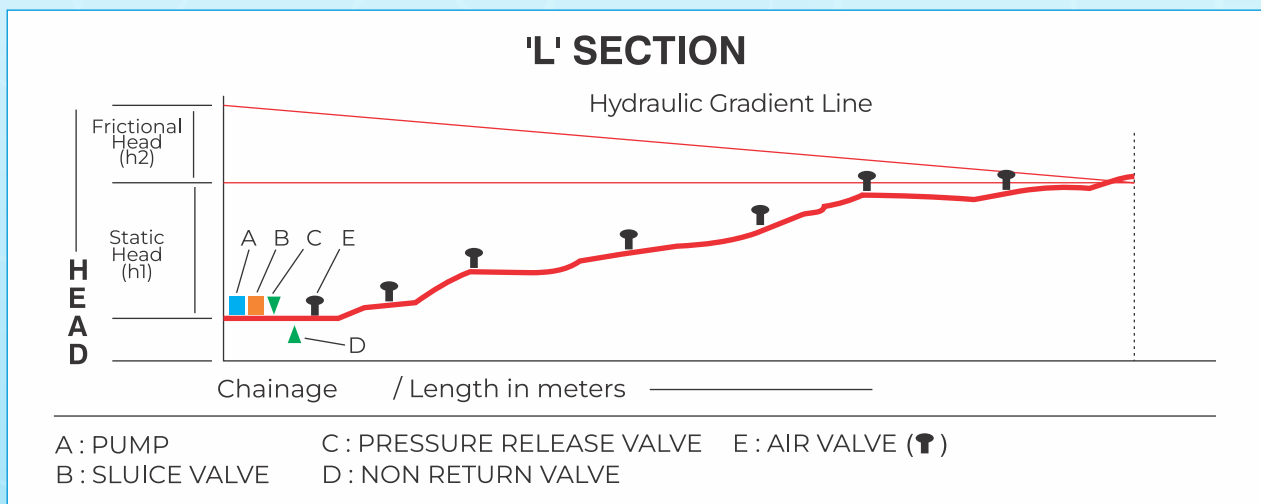
### BASIC PARAMETER REQUIRED

**Discharge Required (Q) (lps) :** This is the amount of water required for irrigating the fields and can be obtained by planning the crop pattern and frequency of irrigation.

**Length of the pipeline (L) (meters) :** This is the total length of the pipe required from the source of water to the discharge point as shown in the 'L' Section.

**Static Head (h<sub>1</sub>) (meters) :** This is the level difference between the lowest and highest level of the pipelines as shown in the 'L' Section.





### Selection of Pressure Class:

For selection of pressure class of a pipeline, total head acting on the pipe at the particular point needs to be worked out as under:

Total Head (H) =  $h_1 + h_2 + 10\% \text{ of } (h_1 + h_2)$ . 10% of  $(h_1 + h_2)$  is taken for losses in valves and fittings.

### HANDLING INSTRUCTION:

- Pipes should be kept on an even surface while storing. They should be properly supported and should not be stacked for heights more than 1.5m for longer duration.
- While laying big pipelines provision should be made for expansion joints, air vents and proper anchorage.
- Pipes or fittings should not be cleaned with solvent cement. Quality of solvent cement plays an important role and hence it is recommended to use good quality solvent cement only.
- For large diameter and higher class pipes (6Kgf/cm<sup>2</sup> and above) always use heavy duty solvent cement. Very old, hard, semi-fluid solvent cement should not be used.

### FRICTION LOSS CALCULATION

Following Hazen William formula should be used for friction loss calculation.

Where,

$h_f$  - Heads loss in m

L - Length of pipe section in m

Q - Discharge in litres/sec

D - Internal diameter of pipe in mm

C - Hazen William constant 150 (For design purpose consider 140)

$$\frac{h_f}{L} = \frac{1.213 \times 10^{10} \times Q^{1.852}}{D^{4.87} \times C^{1.852}}$$

### CONSUMPTION OF SOLVENT CEMENT

Diameter of pipe (mm)	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
Approx. no. of joints which can be made per liter of solvent cement	354	270	225	180	130	125	103	79	54	36	27	25	15	12	9	7	5	3	2	2

# CERTIFICATIONS



## CERTIFICATE

Management system as per  
**ISO 9001 : 2015**

In accordance with TÜV NORD CERT procedures, it is hereby certified that

**C.R.I. PUMPS PRIVATE LIMITED**  
**UNIT : KRISGO INDUSTRIES - II**  
**No.431 & 432, Alur Village,**  
**Near Sipcot Phase-II,**  
**Hosur, Tamilnadu – 635 109,**  
**India**



applies a management system in line with the above standard for the following scope

**Manufacture and Supply of PVC Pipes and Accessories.**

Certificate Registration No. **44 100 18591932/16**  
 Audit Report No. **2-3-499629/16**

*SCG*

Certification Body  
 at TÜV NORD CERT GmbH

Valid until **04.09.2021**


Issue **05.09.2018**  
 Place : **Mumbai**

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures & shall be valid subject to regular Surveillance Audits.

TÜV NORD CERT GmbH      Langemarkstrasse 20      45141 Essen      [www.tuv-nord-cert.com](http://www.tuv-nord-cert.com)

TÜV India Pvt. Ltd.,      801, Phejas Plaza – 1, L.B.S. Marg,      Ghatkopar (W),      Mumbai - 400 086, India      [www.tuv-india.com](http://www.tuv-india.com)



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Web: [www.bis.org.in](http://www.bis.org.in),  
[www.manakonline.in](http://www.manakonline.in)

Dated: 06/2017

Our Ref :CML 670005915

Subject: Grant of BIS Certification Marks Licence No 670005915 as per IS 4985:2000

**Mr KRISGO INDUSTRIES, UNIT - II**  
**(A UNIT OF C.R.I.PUMPS PVT LTD)**  
**8F No.431&2, ALUR VILLAGE,**  
**HOSUR TALUK,**  
**KRISHNAGIRI,**  
**TAMIL NADU/635109**

*SC*

Dear Sir,

With reference to your application, we are pleased to inform you that it has been decided to grant you a licence to use the Standard Mark in respect of the following:

**Unplasticized PVC Pipes for Potable Water Supplies**  
**Class 1, Size 90 to 250mm Plain & Socketed Solvent Cement jointing**  
**Class 2, Size 63 to 250mm Plain & Socketed Solvent Cement jointing**  
**Class 3, Size 40 to 250mm Plain & Socketed Solvent Cement jointing**  
**Class 5, Size 20 to 250mm Plain & Socketed Solvent Cement jointing and**  
**Plumbing pipes, Size 20mm to 50mm**


1. The licence is being granted with the explicit condition that you will mark entire/substantial production which conforms to the Indian Standards referred above.

2. The number assigned to this licence is CML- 670005915 which has been made operative from **02-06-2017** and is valid upto **01-06-2018**. The licence number should invariably be referred to in your future correspondence.

3. According to sub-regulation (2) of Regulation 6 of Bureau of Indian Standards (Certification) Regulation, 1988, the licence fee of Rs Rs. 2000.00 and the marking fee as stipulated in the Second Schedule of this licence is payable by you with effect from 02-06-2017 for the period of validity of the licence. Service tax @ 15.00 % as applicable shall also be charged.

4. Minimum marking fee stipulated therein is payable by you regardless of the whether you actually mark your product or not with the Standard Mark.

*SC*



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[www.manakonline.in](http://www.manakonline.in)

Dated: 06/2017

Our Ref :CML 670005916

Subject: Grant of BIS Certification Marks Licence No 670005916 as per IS 12818.

**Mr KRISGO INDUSTRIES, UNIT - II**  
**(A UNIT OF C.R.I.PUMPS PVT LTD)**  
**8F No.431&2, Sumanapalli Road,**  
**Alur Village, Hosur Taluk,**  
**KRISHNAGIRI,**  
**TAMIL NADU/INDIA 635109**

*SC*

Dear Sir,

With reference to your application, we are pleased to inform you that it has been decided to grant you a licence to use the Standard Mark in respect of the following:

**Unplasticized Polyvinyl Chloride (pvc-u) spheron And Casing Pipes For Bare/unborewell**  
**CS Pipe DN 150, 175 & 200**  
**CM Pipe DN 100, 115, 125, 150, 175 & 200**


1. The licence is being granted with the explicit condition that you will mark entire/substantial production which conforms to the Indian Standards referred above.

2. The number assigned to this licence is CML- 670005916 which has been made operative from **06-06-2017** and is valid upto **05-06-2018**. The licence number should invariably be referred to in your future correspondence.

3. According to sub-regulation (2) of Regulation 6 of Bureau of Indian Standards (Certification) Regulation, 1988, the licence fee of Rs Rs. 2000.00 and the marking fee as stipulated in the Second Schedule of this licence is payable by you with effect from 06-06-2017 for the period of validity of the licence. Service tax @ 15.00 % as applicable shall also be charged.

4. Minimum marking fee stipulated therein is payable by you regardless of the whether you actually mark your product or not with the Standard Mark.

*SC*



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[www.manakonline.in](http://www.manakonline.in)

Dated: 20-06-2017

Our Ref :CML 6700059413

Subject: Grant of BIS Certification Marks Licence No 6700059413 as per IS 13592.

**Mr KRISGO INDUSTRIES (UNIT-II)**  
**(A UNIT OF C.R.I. PUMPS PVT LTD)**  
**8F No.431&2, Sumanapalli Road**  
**Alur Village, Hosur Taluk,**  
**KRISHNAGIRI,**  
**TAMIL NADU/INDIA 635109**

*SC*

Dear Sir,

With reference to your application, we are pleased to inform you that it has been decided to grant you a licence to use the Standard Mark in respect of the following:

**UPVC pipes for soil and waste discharge system**  
**Type A, DN 40, 50, 63, 75, 90, 110, 125, 140 & 160**  
**Grooved Socket end and Socket ended for Solvent Cement jointing**  
**Type B, DN 40, 50, 63, 75, 90, 110, 125, 140 & 160**  
**Grooved Socket end and Socket ended for Solvent Cement jointing**


1. The licence is being granted with the explicit condition that you will mark entire/substantial production which conforms to the Indian Standards referred above.

2. The number assigned to this licence is CML- 6700059413 which has been made operative from **02-06-2017** and is valid upto **01-06-2018**. The licence number should invariably be referred to in your future correspondence.

3. According to sub-regulation (2) of Regulation 6 of Bureau of Indian Standards (Certification) Regulation, 1988, the licence fee of Rs Rs. 2000.00 and the marking fee as stipulated in the Second Schedule of this licence is payable by you with effect from 02-06-2017 for the period of validity of the licence. Service tax @ 15.00 % as applicable shall also be charged.

4. Minimum marking fee stipulated therein is payable by you regardless of the whether you actually mark your product or not with the Standard Mark.

*SC*



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Web: [www.bis.org.in](http://www.bis.org.in),  
[www.manakonline.in](http://www.manakonline.in)

Dated: 20-06-2017

Our Ref :CML 6700059514

Subject: Grant of BIS Certification Marks Licence No 6700059514 as per IS 15778.

**Mr KRISGO INDUSTRIES, UNIT - II**  
**(A UNIT OF C.R.I.PUMPS PVT LTD)**  
**8F No.431 & 432 Alur Village,**  
**HOSUR,**  
**KRISHNAGIRI,**  
**TAMIL NADU/INDIA 635109**

*SC*

Dear Sir,

With reference to your application, we are pleased to inform you that it has been decided to grant you a licence to use the Standard Mark in respect of the following:

**Chlorinated polyvinyl chloride (CPVC) pipes for potable hot and cold water distribution supplies**  
**Class 1 SDR 11, Sizes - 15mm to 50mm**  
**Class 2 SDR 13.5 Sizes 15mm to 50mm**

1. The licence is being granted with the explicit condition that you will mark entire/substantial production which conforms to the Indian Standards referred above.

2. The number assigned to this licence is CML- 6700059514 which has been made operative from **02-06-2017** and is valid upto **01-06-2018**. The licence number should invariably be referred to in your future correspondence.

3. According to sub-regulation (2) of Regulation 6 of Bureau of Indian Standards (Certification) Regulation, 1988, the licence fee of Rs Rs. 2000.00 and the marking fee as stipulated in the Second Schedule of this licence is payable by you with effect from 02-06-2017 for the period of validity of the licence. Service tax @ 15.00 % as applicable shall also be charged.

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*SC*



**IAPMO Plumbing Codes and Standards India Pvt. Ltd.**  
 No.43, 4th Floor, PNR Tower, Serenitee Apartments, Near IISc Road junction, Bangalore, Karnataka 560 009



## CERTIFICATE OF LISTING

LICENSING: Krisgo Industries Unit-II, Unit of C.R.I. Pumps Private Limited, Alur Village, Hosur, TN, India Pin: 635 109  
 File No. IN-178      Product: Drinking Water System Components- Health Effects      Valid After FEBRUARY 28, 2021

IDENTIFICATION: Each of the listed uPVC Casing Pipes shall be permanently and legibly marked with the manufacturer's name or trademark or name of the client to which the products are manufactured. The product may be marked with "LEAD FREE" in compliance with the standard designation "NSF/ANSI 372". Product also complies to RoHS requirement.

CHARACTERISTICS: Materials or products that come into contact with drinking water and/or drinking water treatment chemicals. Products and materials may include process media, protective materials, joining and sealing materials, pipes and related products, mechanical devices and with treatment/distribution/distribution systems, and mechanical joining devices. To be installed in accordance with the manufacturer's instruction. Lead free requirements are addressed under this certificate of listing based on RoHS compliance.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

Products are in compliance with the following standard(s): NSF/ANSI 372:2016 and RoHS.

*K. Chandrasekhar*  
 Dr. K. Chandrasekhar  
 Managing Director

*Ravi Chandy*  
 Ravi Chandy  
 CEO, The IAPMO Group



This listing period is based upon the last date of the reports indicated on the Effective Date and last date shown above. Any change in material, manufacturing process, marking or design without notice that contained the substance of listed pipes or any material of non-compliance with applicable code and standards is of notice. Furthermore, any change in design or manufacturing process may be grounds for revocation of this listing.

Page: 1



Redefining  
heights

6<sub>mtr</sub> (20ft)

C.R.I. Column Pipes



✿ CATERS TO DIVERSE SEGMENTS ✿

WATER & WASTE WATER | SOLAR | PROCESS INDUSTRIES | SEWAGE & EFFLUENT  
TREATMENT PLANTS HVAC | FIRE FIGHTING | METAL & MINING | FOOD & BEVERAGE  
AGRICULTURE | RESIDENTIAL



**C.R.I. PIPES**  
*Quality in every inch*



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