



G.I. MALLEABLE
PIPE FITTINGS

PRODUCT CATALOGUE 2011



K.S. ENGINEERING WORKS

India's Largest Selling ISI Mark G.I. Malleable Pipe Fittings



An ISO 9001:2008
Certified Company

What some of our esteemed Customers have to say...

"We have been using the KS Brand for over a decade in India and abroad. Never had any complaints".

Ajay Kumar, DS Gupta Contracts Pvt. Ltd.

"The quality of KS Pipe Fittings is very good".

Kamal Kumar, IVRCL Infrastructures & Projects Ltd.

"Using KS Pipe Fittings for the last 5 years... No complaints".

Nagarjuna Construction Company Ltd.

"Good quality, timely delivery, ISI Certified. KS Brand has given us no trouble in the last 15 years".

Era Constructions (India) Ltd.

"ISI Marked, KS GI Pipe Fittings are reliable and we have been using these in our projects for 12 years now".

Assotech Realty Private Ltd.

"Excellent quality! KS Pipe Fittings are being used in our various projects in Delhi, Haryana & Orissa".

Bhushan Power & Steel Ltd.

"Since 2002, we have only used KS Pipe Fittings in our projects. Found the quality very good".

Shipra Estate Limited

"Very satisfied with KS Brand quality... Wishing them all success".

Omaxe Constructions Ltd.

"Projects at Delhi/Punjab/Rajasthan/Noida/Gurgaon/Agra/Faridabad, we have used only KS Pipe Fittings. No complaints".

Parsavnath Developers Limited

"In our Delhi and NCR projects, we have been using KS GI Pipe Fittings. Quality is found to be satisfactory".

Amrapali Group

Gold Medal awarded by the Institute of Self Defence & National Character





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ABOUT THE COMPANY

KS Engineering Works was established in 1960 at Ghaziabad UP. It is one of the leading manufacturers of Galvanized Iron Malleable Pipe Fittings under the brand name **KS**. In 1973 **KS** became the first brand in India with an  Mark on pipe fittings.

KS produces reliable and durable G.I. Malleable Pipe Fittings using the latest technology under the supervision of qualified engineers. **KS** enjoys the reputation of being a pioneer and the largest manufacturer in the field.

KS Engineering Works manufactures the complete range of pipe fittings suitable for all applications, like hot and cold water, oil and gas installations, from 15mm to 150mm (½" to 6").

The **KS** Brand is being used extensively in most of the infrastructure projects both in the Government and in the private sector, in buildings, agriculture, gas supply, industry, oil refineries, thermal plants, marine engineering and hydraulic and pneumatic applications.



A part view of the office block

First company
in India
to be awarded
the  Mark
way back in 1973



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SPECIAL FEATURES OF THE KS BRAND

- **Higher Malleability:** **KS** pipe fittings are produced with the best raw material characteristic properties. G.I. Malleable heat treatment is given to better ductility which ensures smooth tightening without developing any internal or external cracks. Our tensile and elongation properties are best in the field.
- **Zinc Coating:** The pipe fittings are Galvanized by the highest Zinc purity i.e 99.995%. Proper cleaning and shot blasting is done to ensure smooth and uniform coating of Zinc on internal and external surfaces. To give extra protection from rust and corrosion, we provide even higher zinc coating than what is specified in the Indian Standards.
- **Chamfering:** **KS** fittings are properly chamfered at each end for accurate engagement of threads with pipes and valves.
- **Precision Threading:** The pipe fittings are threaded after galvanizing with the help of HSS ground taps on automatic threading machines to ensure perfect threading at correct angles. Proper thread gauges are used for inspection. Our fittings are compatible with all makes and classes of pipes.



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STANDARDS AND SPECIFICATIONS

KS Brand G.I. Malleable Pipe Fittings are manufactured strictly to IS:1879 (Part 1 x 2010) standards and are considered best in the industry. The manufacturing standards are specified below:

MALLEABLE	: Whiteheart Malleable Cast Iron as per IS:14329-1995
THREADS	: Threaded as per IS:554-1999 parallel threads.
GALVANIZING	: Galvanized finish is tested in accordance with the finish provision contained in IS:4759-1996
DIMENSIONS	: G.I. Malleable pipe fittings as per IS:1879 (Part 1 X 2010)



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QUALITY CONTROL

(A) MECHANICAL TESTS

Various tests are conducted during the course of production. These are:

MALLEABILITY TEST to ensure that the fittings are properly annealed.

TENSILE TEST to ensure that the fittings after being properly annealed have acquired the desired tensile strength and elongation.

PRESSURE TEST to ensure that the fittings do not leak when internal fluid pressure is given.

ALIGNMENT TEST is done on a special fixture to ensure that the fittings have accurate angles at 90 or 180 degrees.

B) OTHER INSPECTION

Though the fittings are threaded on automatic machines, the inspection of angles, wall thickness and threads are done with the help of suitable thread gauges and micrometers.

C) VISUAL INSPECTION

- Castings are also inspected visually to ensure that they are free from porosity, blow holes and sand holes.
- Annealed and shot blasted castings are inspected for any distortion or cracks.
- Galvanized fittings are inspected to ensure that the Zinc coating is smooth, clean, uniform and free from any defects.



Mechanical Tests



Malleability Test



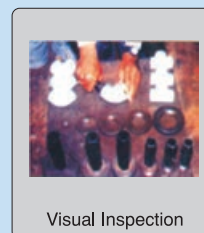
Tensile Test



Pressure Testing



Alignment Test



Visual Inspection



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APPLICATIONS

KS Brand pipe fittings are widely used and applied in water, oil, steam, air and gas piping systems in the following fields:

- (a) Building Construction
- (b) Agriculture
- (c) Domestic Gas Supply
- (d) Industry
- (e) Oil Refineries
- (f) Thermal Plants
- (g) Marine Engineering
- (f) Hydraulic & Pneumatic Applications



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ADVANTAGES

K.S. Brand pipe fittings do not crack or break during tightening onto the pipes, due to higher malleability. Accurate threading of pipe fittings needs no rework on them at the site and are quickly assembled on the pipes, valves and cocks etc. The threading is so perfect that it connects the respective pipes at the desired angle 90°/180° without any strains to facilitate free flow of fluid. This eliminates wastage of time and labour. Hence, more cost effective.

The pipe fittings are **ISI Marked** and are approved by all major government projects of DG MAP, MES, CGWHO, AWHO, AFNHB, LIC, DDA, CPWD and many others...



**KS Brand Pipe Fittings
are guaranteed against
any manufacturing
defect and are
maintenance free.**

**However, if any product
is found to be defective
it is replaced free of
cost, provided it has
not been mishandled.**



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PIPE FITTINGS

SOME OF THE PROJECTS WHERE PRODUCTS HAVE BEEN USED

- Apollo Hospital, New Delhi
- Asiad Village, New Delhi
- Bhabha Atomic Research Centre, Trombay
- CGEWHO, Bangalore-Noida-Gurgoan-Pune
- Centaur Hotel, Delhi-Bombay
- Essel World, Bombay
- Express Tower, Bangalore
- Gas Authority Of India, Divyapur-Etawah-Kanpur
- Hudco Projects, New Delhi
- Hotel Taj, New Delhi-Goa
- Hotel Yak & Yeti, Nepal
- Hotel Nova, Agra
- Indira Gandhi Indoor Stadium, New Delhi
- Jal Vayu Vihar, Noida-Faridabad-Gurgoan
- Maurya Sherton Hotel, New Delhi
- Malibu Town, Gurgoan
- NTPC, Noida, Ghaziabad
- Oil Refinery, Panipat
- Palam Airport, New Delhi
- Parliament Library, New Delhi
- Pepsi Foods, Patiala
- Scope Complex, New Delhi
- Shipra Sun City, Ghaziabad
- Stock Exchange, Jaipur
- Sunbreez-II, Vaishali
- Tata Chemical Housing Project, Babrala, UP
- Tata Projects, USSR
- National Stadium, New Delhi
- Jawahar Lal Nehru Stadium, New Delhi
- All Stadiums of Common Wealth Games 2010, New Delhi

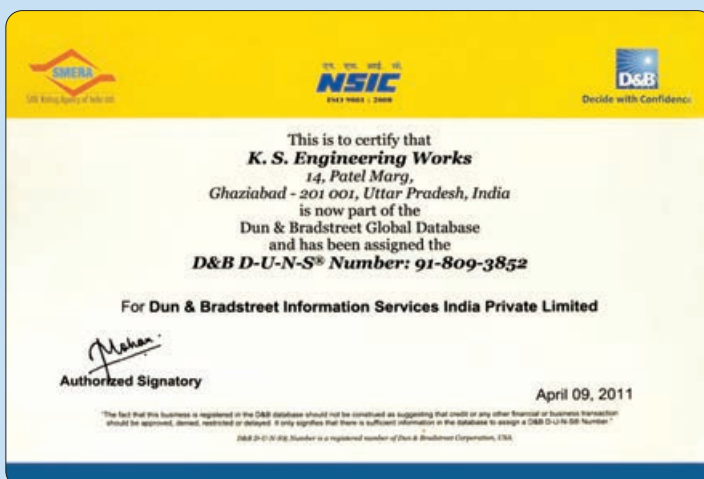
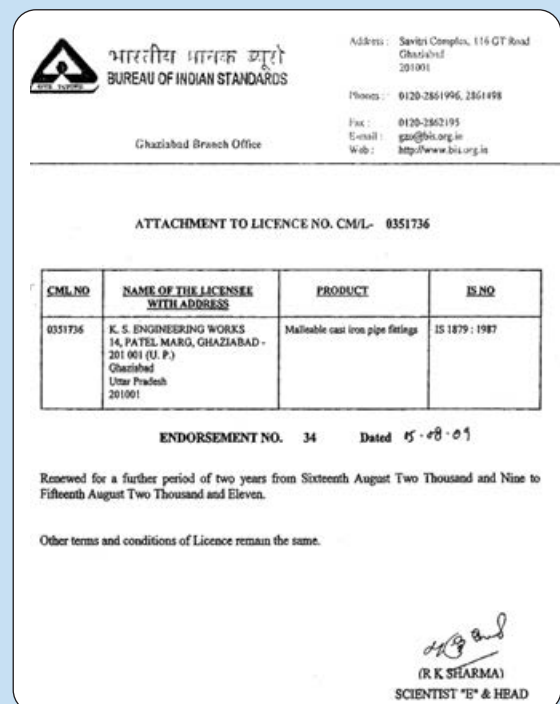


G.I. MALLEABLE
PIPE FITTINGS

Certifications

WE LAY GREAT EMPHASIS
ON QUALITY. ALL PIPE FITTINGS
MANUFACTURED
UNDERGO VARIOUS QUALITY
ASSURANCE TESTS TO ENSURE
COMPLETE CUSTOMER SATISFACTION.
THE MANUFACTURING PROCESSES
ARE GOVERNED BY A COMPREHENSIVE
QUALITY PLAN.
EVERY PIECE OF PIPE FITTINGS IS
ISI MARKED AND IS ENGRAVED
WITH **IS:1879**.

THE  BRAND IS CERTIFIED TO
ISO : 9001 : 2008





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PIPE FITTINGS

TECHNICAL SPECIFICATIONS

Properties	KS	ISS	ISO	BSS	JIS
Tensile Test Min. kgf/mm ²	33	30	30	28	28
Elongation Min. %age	08	05	06	06	05
Zinc Coating Min. gms/m ²	680	610	450	450	450
Hydraulic Pressure Test Kgf/cm ²	25	20	20	14	20
Angle Tolerance Degree	±1/2°	±1/2°	±1/2°	±1/2°	±1/2°

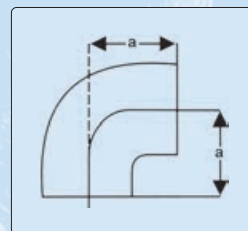


PRODUCT SPECIFICATIONS



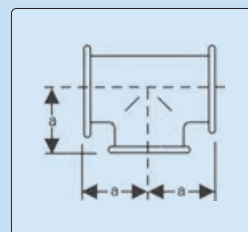
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PIPE FITTINGS

ELBOW



INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	500	29.0	9.1	12.0
3/4	20	400	33.5	13.7	16.0
1	25	250	38.0	20.9	24.0
1 1/4	32	150	45.0	33.2	39.0
1 1/2	40	100	49.5	42.7	46.0
2	50	50	57.8	65.2	82.0
2 1/2	65	30	71.0	117.0	124.0
3	80	20	79.0	153.0	169.0
4	100	10	98.5	270.0	322.0
6	150	3	134.0	660.0	870.0

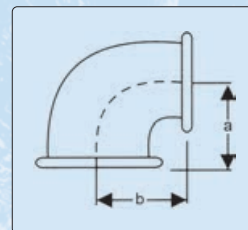
TEE



INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	400	28.0	13.0	17.5
3/4	20	250	33.5	18.7	21.0
1	25	150	38.0	28.2	31.5
1 1/4	32	90	45.0	43.5	47.0
1 1/2	40	60	49.5	57.0	64.0
2	50	35	58.5	88.0	94.0
2 1/2	65	20	68.5	155.0	155.0
3	80	12	77.5	210.0	210.0
4	100	6	98.5	345.0	458.0
6	150	3	132.0	780.0	846.0



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PIPE FITTINGS



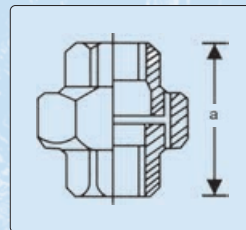
REDUCING ELBOW

INCHES	MM	PACKING	a	b	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
3/4 x 1/2	20x15	500	31.0	33.0	11.9	15.0
1 x 1/2	25x15	300	32.5	34.0	15.7	19.5
1 x 3/4	25x20	300	35.5	37.8	18.0	20.0
1 1/4 x 1/2	32x15	200	34.0	39.0	22.0	33.2
1 1/4 x 3/4	32x20	200	35.5	41.0	22.5	31.0
1 1/4 x 1	32x25	150	40.0	41.0	28.0	30.0
1 1/2 x 1/2	40x15	200	37.0	42.0	25.0	30.0
1 1/2 x 3/4	40x20	150	37.5	44.0	30.0	32.0
1 1/2 x 1	40x25	150	41.0	45.5	32.0	38.0
1 1/2 x 1 1/4	40x32	110	45.0	48.5	38.0	44.0
2 x 1/2	50x15	100	36.5	47.5	42.0	42.0
2 x 3/4	50x20	100	41.8	49.5	47.0	48.0
2 x 1	50x25	100	44.5	51.0	52.0	53.0
2 x 1 1/4	50x32	70	48.2	53.2	55.0	56.0
2 x 1 1/2	50x40	70	52.3	55.5	52.0	63.0
2 1/2 x 1 1/4	65x32	35	53.8	64.0	67.0	78.0
2 1/2 x 1 1/2	65x40	35	56.8	64.0	80.0	92.0
2 1/2 x 2	65x50	35	61.5	66.8	100.0	100.0
3 x 1 1/4	80x32	30	56.0	71.5	110.0	122.0
3 x 1 1/2	80x40	30	58.5	73.0	119.0	130.0
3 x 2	80x50	25	64.5	71.5	125.0	137.0
3 x 2 1/2	80x65	25	70.3	77.5	130.0	142.0
4 x 2	100x50	25	71.5	88.5	205.0	217.0
4 x 3	100x80	15	84.5	94.0	290.0	306.0



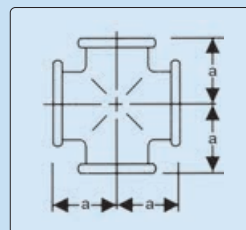
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PIPE FITTINGS

UNION



INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	300	49.0	19.1	25.0
3/4	20	200	53.5	26.7	31.0
1	25	120	60.0	34.8	45.0
1 1/4	32	100	66.5	58.2	63.0
1 1/2	40	70	70.5	73.3	84.0
2	50	40	79.5	109.0	130.0
2 1/2	65	25	85.5	176.0	178.0
3	80	20	97.5	244.0	245.0
4	100	10	110.0	390.0	390.0

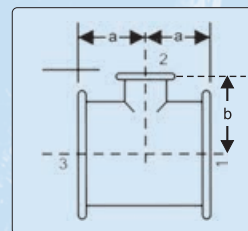
CROSS



INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	300	28.0	14.5	18.0
3/4	20	200	33.5	22.4	24.8
1	25	100	38.0	32.8	37.8
1 1/4	32	70	44.5	51.0	56.0
1 1/2	40	50	49.5	68.0	70.0
2	50	30	59.5	100.0	120.0



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PIPE FITTINGS

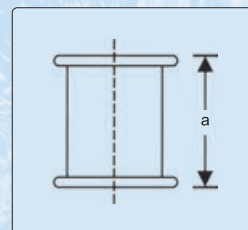


REDUCING TEE

INCHES	MM	PACKING	a	b	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
¾ x ½	20x15	300	31.0	31.0	16.2	18.0
1 x ½	25x15	200	33.0	36.0	22.6	26.0
1 x ¾	25x20	200	35.0	38.0	24.2	26.0
1 ¼ x ½	32x15	120	34.2	38.5	31.4	33.0
1 ¼ x ¾	32x20	120	36.5	42.0	32.3	33.0
1 ¼ x 1	32x25	100	40.0	42.5	36.8	42.0
1 ½ x ½	40x15	100	36.2	41.5	36.8	39.0
1 ½ x ¾	40x20	100	39.0	45.0	42.6	44.0
1 ½ x 1	40x25	90	42.0	46.0	42.6	47.0
1 ½ x 1 ¼	40x32	70	46.7	48.2	49.5	53.0
2 x ½	50x15	60	38.0	48.3	49.5	50.0
2 x ¾	50x20	60	40.2	52.0	51.0	52.0
2 x 1	50x25	50	44.5	53.0	55.0	58.0
2 x 1 ¼	50x32	50	48.0	55.3	68.0	71.0
2 x 1 ½	50x40	40	52.5	57.0	72.0	76.0
2 ½ x ½	65x15	40	41.2	58.0	72.0	80.0
2 ½ x ¾	65x20	40	44.5	59.0	85.0	91.0
2 ½ x 1	65x25	30	48.0	62.0	97.4	98.0
2 ½ x 1 ¼	65x32	30	52.0	63.0	100.0	110.0
2 ½ x 1 ½	65x40	30	56.5	65.0	100.0	112.0
2 ½ x 2	65x50	30	62.0	66.5	122.0	140.0
3 x ½	80x15	20	47.0	66.0	122.0	126.0
3 x ¾	80x20	25	47.5	68.0	124.0	128.0
3 x 1	80x25	20	52.0	68.0	134.0	136.0
3 x 1 ¼	80x32	20	55.5	72.0	140.0	152.0
3 x 1 ½	80x40	20	58.0	73.0	158.0	165.0
3 x 2	80x50	15	64.0	74.0	158.0	165.0
3 x 2 ½	80x65	15	72.0	77.0	183.0	181.0
4 x 1	100x25	10	60.0	84.5	-	225.0
4 x 1 ¼	100x32	10	62.5	82.5	-	242.0
4 x 1 ½	100x40	10	64.5	87.0	-	244.0
4 x 2	100x50	10	70.0	87.5	-	266.0
4 x 2 ½	100x65	8	77.0	90.5	280.0	290.0
4 x 3	100x80	8	84.0	94.0	300.0	330.0
6 x 2	150x50	4	78.0	117.0	-	425.0
6 x 3	150x80	4	94.0	124.0	-	539.0
6 x 4	150x100	3	107.0	127.0	-	653.0

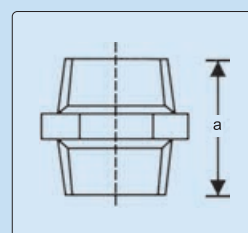


G.I. MALLEABLE
PIPE FITTINGS



SOCKET

INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	600	36.5	6.1	9.0
3/4	20	500	40.0	9.3	12.0
1	25	350	44.0	13.3	15.0
1 1/4	32	200	50.0	20.6	23.0
1 1/2	40	150	54.0	26.8	30.0
2	50	90	64.5	44.1	45.0
2 1/2	65	50	73.5	73.5	75.0
3	80	30	79.0	103.0	106.0
4	100	15	94.0	153.0	159.0
6	150	5	120.0	340.0	376.0

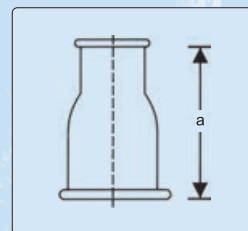


HEX NIPPLE

INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
1/2	15	600	43.5	6.0	8.0
3/4	20	400	45.5	8.7	10.0
1	25	300	52.5	14.0	17.0
1 1/4	32	200	58.5	22.3	24.0
1 1/2	40	150	61.0	26.4	32.0
2	50	100	68.5	40.3	42.0



G.I. MALLEABLE
PIPE FITTINGS



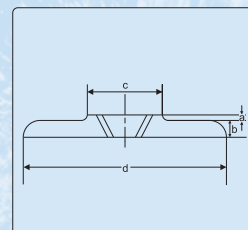
REDUCING SOCKET

INCHES	MM	PACKING	a	WT. OF 100 PCS. AS PER ISI	WT. OF 100 PCS. OF KS
3/4x1/2	20x15	500	40.0	8.9	10.0
1x1/2	25x15	400	46.0	12.8	15.0
1x3/4	25x20	400	45.0	13.2	16.0
1 1/4x1/2	32x15	250	50.5	18.9	20.0
1 1/4x3/4	32x20	250	49.0	19.1	21.0
1 1/4x1	32x25	200	48.5	21.2	23.0
1 1/2x1/2	40x15	200	54.5	23.6	24.0
1 1/2x3/4	40x20	200	55.5	24.0	28.0
1 1/2x3/4	40x25	200	54.5	24.8	28.0
1 1/2x1 1/4	40x32	150	54.5	25.4	28.0
2x1/2	50x15	100	64.5	38.0	46.0
2x3/4	50x20	100	67.0	37.4	46.0
2x1	50x25	100	66.0	37.3	41.0
2x1 1/4	50x32	100	66.5	38.2	43.0
2x1 1/2	50x40	100	65.5	38.5	45.0
2 1/2x1/2	65x15	60	73.0	61.0	61.0
2 1/2x3/4	65x20	60	73.0	61.0	62.0
2 1/2x1	65x25	60	75.0	65.0	66.0
2 1/2x1 1/4	65x32	60	74.0	63.8	64.0
2 1/2x1 1/2	65x40	60	76.0	63.6	68.0
2 1/2x2	65x50	50	75.0	63.4	76.0
3x1	80x25	40	76.0	85.0	85.0
3x1 1/4	80x32	40	76.5	89.0	90.0
3x1 1/2	80x40	40	79.0	89.5	90.0
3x2	80x50	40	80.0	88.7	98.0
3x2 1/2	80x65	40	80.0	89.8	102.0
4x2	100x50	25	96.5	140.0	187.0
4x3	100x80	20	94.0	142.0	164.0
6x4	150x100	15	125.0	-	390.0



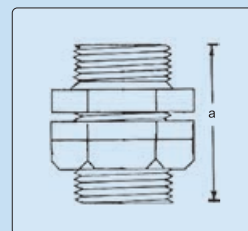
G.I. MALLEABLE
PIPE FITTINGS

FLANGES



INCHES	MM	PACKING	a	b	c	d	WT. OF 100 PCS. OF KS
1/2	15	150	9.5	6.5	37.8	84.5	30.4
3/4	20	120	9.5	6.5	32.0	98.5	30.8
1	25	100	12.5	6.5	39.5	115.5	47.8
1 1/4	32	80	17.0	7.5	51.5	122.0	65.0
1 1/2	40	60	17.0	8.0	56.0	138.5	80.6
2	50	40	14.5	8.0	67.5	151.0	104.2
2 1/2	65	40	14.5	8.0	84.0	164.0	107.0
3	80	25	16.0	9.0	99.0	196.5	168.4
4	100	25	23.0	10.0	123.0	214.0	213.0
6	150	10	23.5	13.0	180.0	277.5	442.0

TANK NIPPLE



INCHES	MM	PACKING	a	WT. OF 100 PCS. OF KS
1/2	15	300	60.0	17.0
3/4	20	200	63.0	19.0
1	25	150	74.0	31.5
1 1/4	32	100	82.0	50.0



Save
Water
for a better Future



G.I. MALLEABLE
PIPE FITTINGS

K. S. ENGINEERING WORKS

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