



**Luleh Va Machinsazi Iran Co.**

With more than 50 years experience  
in manufacturing and improving

DN 100  
DN 2000

# Ductile Iron Pipes

ISO 2531-1998

Hygienic conveyance of drinking water has always been in concern with developing countries and this concern is doubled in dry and low water supply regions of the world like Iran and the Middle East. These areas have an essential need to extensive networks for water transmission and "pipe" is the main element of these vital networks.

Long ago, the public water authorities began to import cast iron pipes as the best choice for healthy conveyance of drinking water from European and American manufacturers to develop water mains.

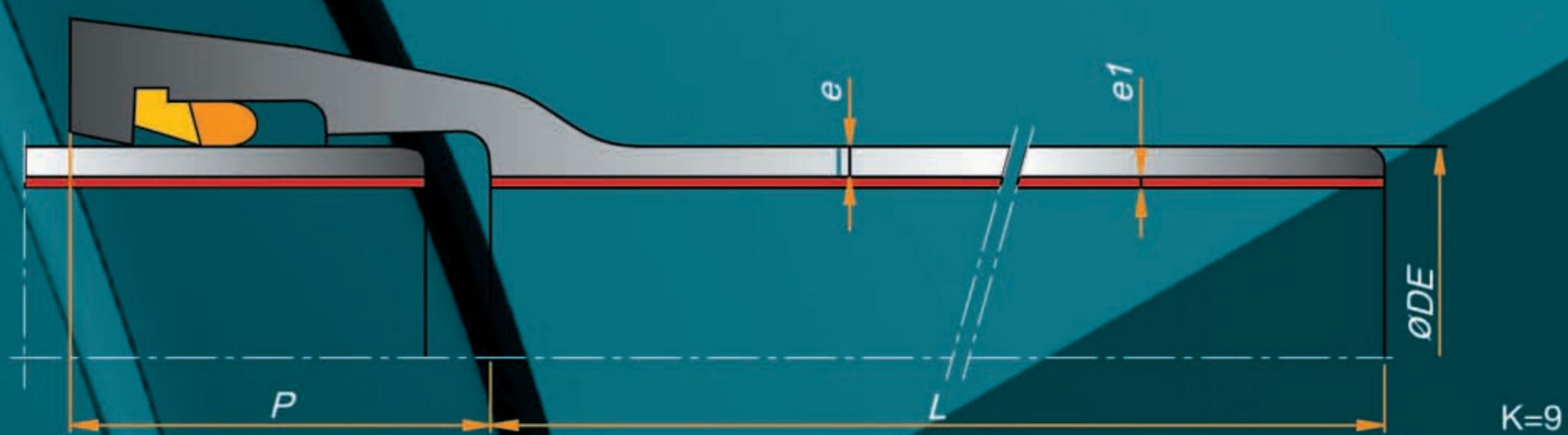
In 1957, LMI company started to manufacture ductile iron pipes and their fittings and accessories with the aim of independency from foreign manufacturers and providing part of water industry equipment.

During half a century, LMI has been the pioneer in the national water industry and has offered its products with a competitive quality in international markets.

Today, LMI company produces ductile iron pipes in sizes ranging from 100 to 2000 mm in compliance with the relevant international standards by its two plants with total capacity of 140,000 metric tons of pipes per year.

## ● **Advantages of Ductile Iron Pipes**

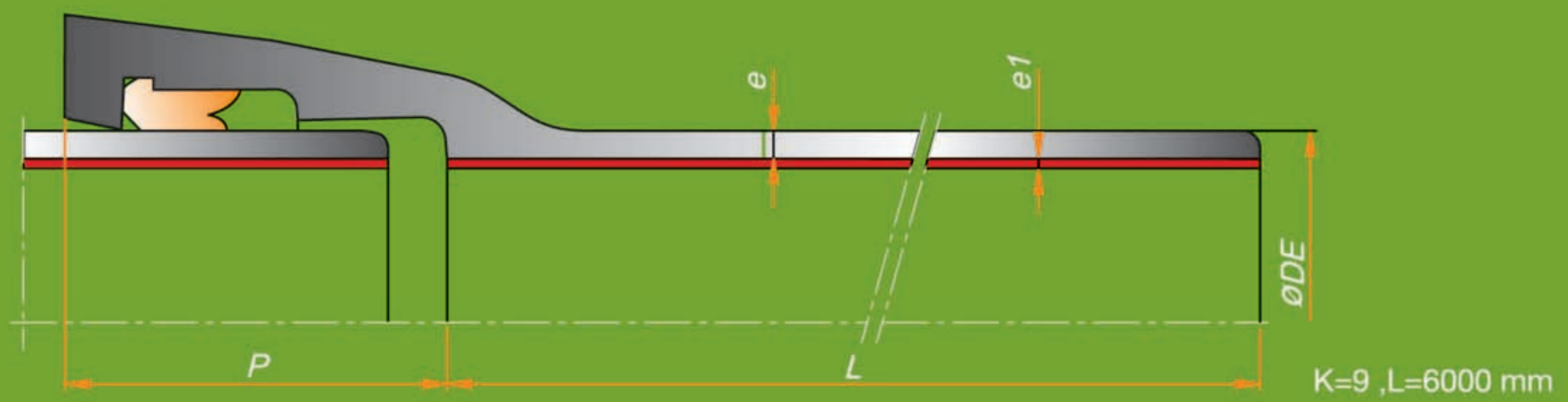
- **High resistant to corrosion**
- **Long lifetime**
- **Easy installation**
- **High working pressure compared with other types of pipes**
- **Suitable for application under high stress conditions and surge pressures**
- **Good elasticity and excellent ductility accompanied by high strength with standing movements of the ground**
- **Outstanding hydraulic flow**



e: Thickness of Iron  
 e1: Thickness of Cement  
 P: Length of Socket

DN	Dimensions (mm)			P	MASS INCLUDE SOCKET per metre		MASS INCLUDE SOCKET (L = 5.5 m)		MASS INCLUDE SOCKET (L = 6 m)	
	DE	e	e1		Ductile Iron Pipe	Ductile Iron Pipe with Cement Lining	Ductile Iron Pipe	Ductile Iron Pipe with Cement Lining	Ductile Iron Pipe	Ductile Iron Pipe with Cement Lining
100	118	6	3	88	15.6	17.8	-	-	94	106
150	170	6	3	94	23.0	26.2	126	144	137	156
200	222	6.3	3	100	32.0	36.3	176	200	191	217
250	274	6.8	3	105	43.1	48.4	237	266	257	289
300	326	7.2	3	110	54.3	60.7	299	334	324	363
350	378	7.7	5	110	67.7	80.1	372	440	-	-
400	429	8.1	5	110	80.7	94.8	444	522	-	-
500	532	9	5	120	111.6	129.2	614	710	-	-
600	635	9.9	5	120	147.1	168.2	809	925	-	-
700	738	10.8	6	150	189.2	218.7	1041	1203	-	-
800	842	11.7	6	160	236.5	270.2	1301	1486	-	-
900	945	12.6	6	175	287.2	325.1	1580	1788	-	-
1000	1048	13.5	6	185	342.5	384.6	1884	2115	-	-

(Weights in Kg)



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e1: Thickness of Cement  
P: Length of Socket

DN	Dimensions (mm)			P	MASS INCLUDE SOCKET per metre		MASS INCLUDE SOCKET (L = 6 m)	
	DE	e	e1		Ductile Iron Pipe	Ductile Iron Pipe with Cement Lining	Ductile Iron Pipe	Ductile Iron Pipe with Cement Lining
*1100	1152	14.4	6	160	389.1	435.4	2335	2613
1200	1255	15.3	6	165	449.6	500.1	2697	3001
1400	1462	17.1	9	240	598.6	686.9	3592	4121
*1500	1565	18	9	250	676.4	771.0	4059	4626
1600	1668	18.9	9	260	760.2	861.1	4561	5166
1800	1875	20.7	9	270	940.7	1054.2	5644	6325
2000	2082	22.5	9	290	1144.2	1270.3	6865	7622

\* Can be supplied on request

(Weights in Kg)

Nominal Diameter (mm)	Allowable maximum operating pressure (bar)	Description
100-300	50	All pipes are subjected to a works hydrostatic test pressure of 52 bar (The minimum quantity is equal to 50 bar as specified in ISO 2531)
350-600	40	All pipes are subjected to a works hydrostatic test pressure of 42 bar (The minimum quantity is equal to 40 bar as specified in ISO 2531)
700-1000	32	All pipes are subjected to a works hydrostatic test pressure of 34 bar (The minimum quantity is equal to 32 bar as specified in ISO 2531)
1100-2000	25	All pipes are subjected to a works hydrostatic test pressure of 27 bar (The minimum quantity is equal to 25 bar as specified in ISO 2531)

## Standards

- **ISO 2531:1998** Ductile iron pipes, fittings, accessories and their joints for water applications
- **EN 545:2007** Ductile iron pipes, fittings, accessories and their joints for water pipelines Requirements and test methods
- **ISO 4179:2005** Ductile iron pipes and fittings for pressure and non-pressure pipelines -- Cement mortar lining
- **ISO 8179-1:2004** Ductile iron pipes -- External zinc-based coating -- Part 1: Metallic zinc with finishing layer
- **ISO 4633:2004** Rubber seals -- Joint rings for water supply, drainage and sewerage pipelines -- Specification for materials
- **DIN 28603:2002** Ductile iron pipes and fittings - Push-in joints - Survey, sockets and gaskets
- **ISO 6708:1995** Pipework components -- Definition and selection of DN (nominal size)
- **ISO 7268:1984** Pipe components -- Definition of nominal pressure



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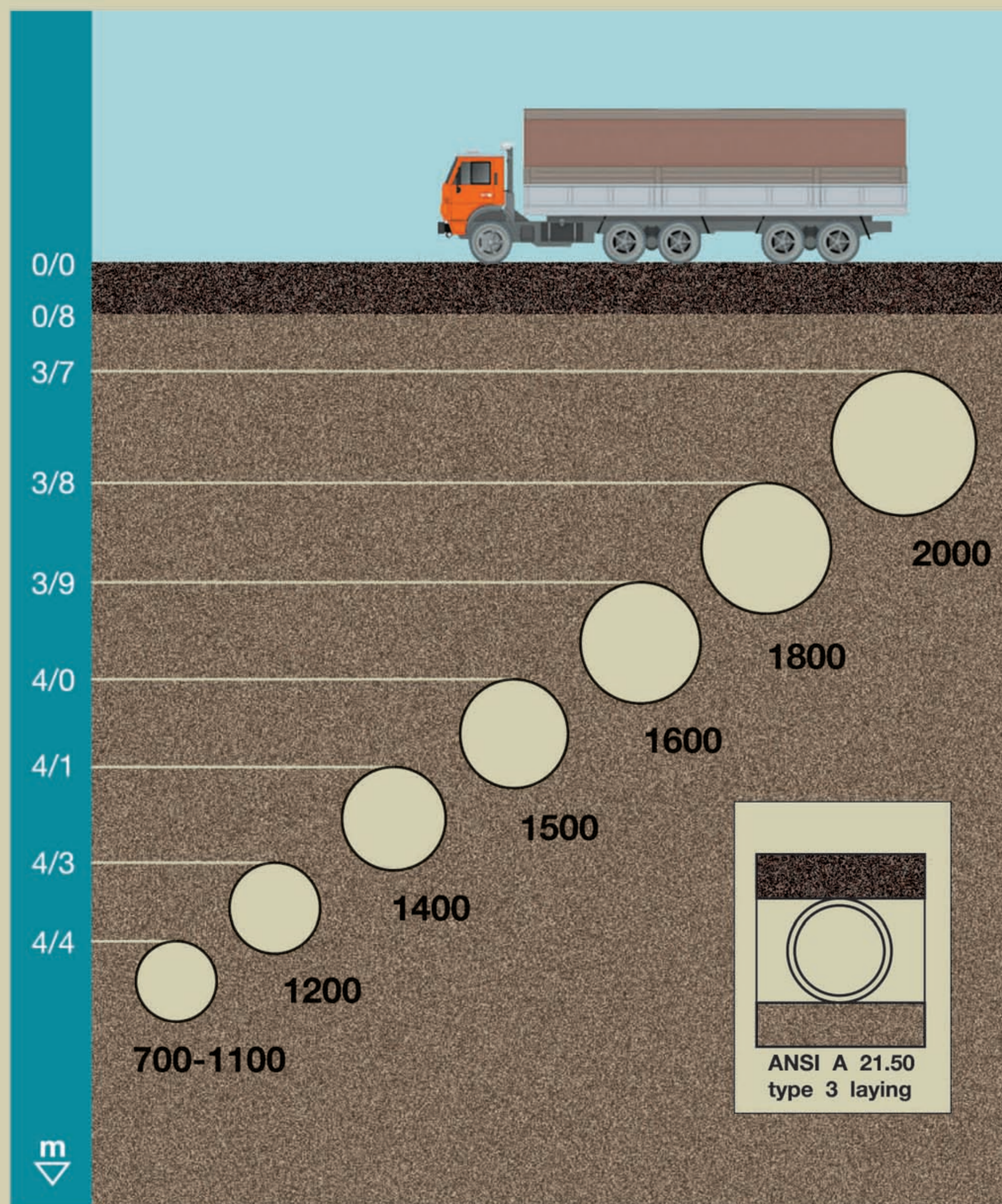
## Depth of cover

### Capabilities:

Figure below shows the maximum allowable depth of cover in the following conditions:

- Presence of traffic loads
- Pipes of K9 thickness class
- Pipe laying condition as per type 3 of ANSI/AWWA C150/A21.50

The minimum allowable depth of cover for all sizes of pipes is 80 centimeters.



Certainly, pipes with diameters below 700 mm may be laid in depths greater than that stated in the diagram.

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