ANNEX 7 **SPECIFIC REQUIREMENTS FOR TRUCK MOUNTED CONCRETE PUMPS**	
1.0	**SCOPE**
1.1	This annexure specifies requirements of Truck mounted concrete pump with distribution boom henceforth referred as "Boom pump" necessary for roadworthiness of N2 & N3 category vehicles as defined in IS 14272 amended from time to time.
1.2	Vehicles as defined in this standard shall necessarily meet the requirements specified in Part 1 of AIS 163 amended from time to time. Additionally, the vehicles shall meet the requirements specified in this Annexure for those special purpose duty application for which the vehicle is intended to perform
1.3	Manufacturer may have the option to refer ISO 21573-1 and ISO 21573-2 as recommendatory guidelines for commercial specifications & procedure for examination of technical parameters for concrete pumps.
	Note: Latest version of standards (AIS, IS, ISO etc.,) referred in this Annexure shall be checked for compliance
1.4	Any alteration or modification in already type approved vehicle to build Boom pumps shall be carried out in accordance with sound engineering practices and in compliance with Central Motor Vehicles Act 1988 and Central Motor Vehicles Rule, 1989, as amended from time to time.
2.0	**REFERENCE**
2.1	ISO 21573-1:2024 Building construction machinery and equipment — Concrete pumps — Part 1: Commercial specifications
2.2	ISO 21573-2:2020 Building construction machinery and equipment — Concrete pumps — Part 2: Procedure for examination of technical parameters
3.0	**DEFINITION**
	In addition to the definitions available in Part 1 of this standard, following definition shall apply to Boom pump.
3.1	**"Approval of a Vehicle" -** The approval of Truck mounted concrete pump with regard to its special function as defined in Clause No. 3.2 of this Annexure.
3.2	"**Boom pump with distribution boom**" is a specialized equipment attached to a truck that consists of a concrete pumping unit and articulating arms, called "boom" to place concrete
4.0	**APPLICATION FOR TYPE APPROVAL** The application for type approval of a vehicle type shall be submitted by the vehicle / appliance manufacturer along with at least the details given in Appendix 1 to this annexure

5.0	**SPECIFIC REQUIREMENTS**			
5.1	Boom pump shall be Special Purpose Vehicle with following specifications:			
	1.	Maximum overall length	16.5 m	
	2.	Maximum rear overhang	80% of wheelbase.	
	3.	Maximum speed	60 kmph	
	4.	Maximum overall height	4 m	
5.2	**Provisions for consideration for CMVR requirements exemption** –			
	Testing Agency may only grant exemption(s) if the manufacturer demonstrates that the vehicle cannot meet the below requirements due to its special purpose.			
	a) External Projection as per IS 13942 provided there shall not be any projection at the rear beyond RUPD or front beyond FUPD or sides beyond SUPD / LUPD in vehicle actual running condition on road			
	b) Installation of lighting and light-signalling devices as per AIS-008 (Rev 1)			
	c) Spray Suppression System as per AIS-013 (Rev.1)			
	d) Rear Under Run Protection Device as per IS 14812			
	e) Vehicle Lateral Protection Side SUPD as per IS 14682			
	f) Approval of Retro-Reflecting Devices as per AIS-057 (Rev.1)			
	g) Vehicle reverse parking alert system as per AIS-145			
	h) Constant Speed Fuel consumption test as per IS 11921 exempted			
	i) Retro-Reflective marking installation as per AIS 090.			
5.3	One working lamp shall be provided.			
5.4	**Stability ratio** - It should never be more than one. The usual recommended stability ratio is 0.7 to 0.9. The stability ratio can be calculated as below:			
	Stability ratio	=	2h x Tan 23°/ b	
	moment W.R.T. ground	=	2h x Tan 23°	
	h	=	CG ht. Under laden condition	
	b	=	Rear outer tyres center distance in m	
5.4.1	Stability of fire tenders shall be validated by physical method or simulation method or by calculation as agreed by test agencies.			
5.5	The vehicle shall be loaded to its technically permissible maximum mass distributed between the axles as declared by the vehicle manufacturer. Where provision is made			

	for several arrangements of the mass on the axles, the distribution of the maximum mass between the axles shall be such that the mass on each axle ~~is proportional to~~ shall not exceed maximum permissible mass for each axle.
5.6	TCD / TCCD requirements shall be compliant with IS 12222: 2011 as amended from time to time
5.7	Timber shall not be permitted in body construction to ensure structural integrity and occupant safety
5.8	All surfaces of the access system designed for walking, climbing, stepping or crawling shall be slip-resistant (including any device or structural component designed as part of an access system)
5.9	Handrails / Handholds complying to IS/ISO 2867: 2011 shall be provided in boom pump equipment portion, for better accessibility.
5.10	For better conspicuity, amber light shall be provided in the extreme edge of boom pump equipment. In case equipment exceeds 3m in length, additional amber light shall be provided at a distance not exceeding 3m.
6.0	**STATUTORY PLATE**
	Each appliance shall be clearly and permanently marked with the following information:
	Manufacturer's name, or trade-mark, if any;
	Year of manufacture.

APPENDIX 1 TO ANNEX 6

INFORMATION TO BE SUBMITTED AT THE TIME OF APPROVAL OF TRUCK MOUNTED CONCRETE PUMPS

Sl. No.	General	Details
1.0	**Boom Pump Manufacturer details**	
1.1	Name and address of the manufacturer	
1.2	Name of variants, if any:	
1.3	Plant/(s) of manufacturer:	
2.0	**Description of vehicle under test**	
2.1	Vehicle category	
2.2	Vehicle type	
2.3	Truck manufacturer	
2.4	Truck CMVR certificate no	
2.5	Dimensions (mm)	
2.5.1	Length	
2.5.2	Width	
2.5.3	Height	
2.6	Gross vehicle weight	
2.7	Rear over hang	