

HOIST TYPE CRANE INSPECTION STANDARD TABLE

Inspection item		Inspection standard	
Traveling rail	Traveling rail	Foreign matter on rail surface	Foreign matter is not to be accumulated.
		Oil adhesion on rail surface	Unnecessary oil is not to be adhered.
		Loosening of rail mounting bolts	No to be loosened.
		Measuring of span	Allowable limit $\pm 5\text{mm}$ (Suspension type) Allowable limit $\pm 10\text{mm}$ (Top running type)
		Measuring of rail slope	1/300 or less (Suspension type) 1/500 or less (Top running type)
		Difference of elevation between traveling rails	$1/500 \times (\text{Span})$ or less
		Rail joint offset	0.5mm or less on both surface and side
		Gap of rail joint	5mm or less on surface
		Rail crack and deformation	rail is not to be cracked and deformed.
		Rail wear	rail surface wear: 10% or less of full size I-beam rail side wear: 5% or less of full
Crane girder	Saddle	Slippage of saddle and main girder	Saddle is to be correctly mounted to main girder in right angle.
		Appearance of construction material	Not to be deformed and damaged.
		Condition of jointed part	Not to be loosened and cracked.
		Wear of trolley wheel surface	5% or less of max. dia. On wheel surface ($\phi 300$ or less) 3% or less (Over $\phi 300$)
		Out of roundness for trolley wheel	0.8mm or less at surface dia.
		Wear of flange	50% or less of full size thickness
		Gap between traveling rail and both flanges (suspension type)	50% or less of wheel surface width
		Diameter difference of right and left wheels	1% or less at surface diameter
		Wear of wheel	2% or less of shaft dia.
		Clearance between shaft and bearing metal	4% or less of shaft dia.
	Wear of roller bearing	Not to be damaged or remarkably marked.	
	Girder	Appearance of construction material	Not to be damaged or deformed.
		Condition of jointed part	Not to be loosened.
		Condition of welded part	Not to be cracked.
		Situation of corrosion	Corrosion is not to be exceeded 10% of original plate.
		Painting condition	Not to be peeled.
		Wear of cross travel	10% or less on both surface and side face
		Cross travel rail gauge	Allowable limit $\pm 5\text{mm}$
	Traveling equipment	Mounting condition of cross travel rail	Not to be cracked and loosened.
		Parallelism of reduction gear shaft	Driving shaft is to be paralleled to reduction gear shaft.
		Mounting condition of reduction gear	Mounting bolts, etc., are not to be
		Appearance of reduction gear	Casing is not to be damaged.
		Engaged gear face condition	Not tot be abnormally worn.
		Wear of gear tooth	Inside of gear case of full size thickness: 20% Exposed tooth: 40%
		Condition of key and key groove	Not to be deformed and loosened.
		Wear of shaft	2% or less of shaft dia.
		Clearance between shaft and bearing metal	Gear shaft on dia.: 2% or less Other shaft: 4% or less
		Wear of roller bearing	Not to be damaged or remarkably marked.
		Wear of oil seal	Not to be remarkably damaged on lip or its shaft surface.
		Mounting conditions of safety covers for gear and other	Safety cover is not to be damaged and fallen. Mounting bolts are not to be loosened.
Mounting condition of driving shaft bearing		Bearing is not to be loosened.	

Electric hoist	Gear	Wear of winding gear teeth	20% or less of full size thickness at pitch circle
		Wear of cross travel gear teeth	40% or less of full size thickness at pitch circle
		Engaged gear tooth condition	Not to be abnormally worn.
	Shaft, bearing and oil seal	wear of gear shaft	1% or less of shaft dia.
		Wear of other shafts	2% or less of shaft dia.
		Clearance between shaft and bearing metal	Gear shaft on shaft dia. : 2% or less Motor pinion & drum shaft: 1% or less Other shafts: 4% or less
		Wear of roller bearing	Not to be damaged or remarkably marked.
	Brake	Wear of oil seal	Not to remarkably damaged on lip or its shaft surface.
		Wear of lining	Full size thickness of dry type: 50% or less of wet type: 20% or less
		Wear and deformation of brake type wheel	Not to be cracked and deformed.
	Cross travel wheel	Wear of brake mechanism	Brake is to be adequately operated.
		Wear on wheel surface	5% or less of max. dia. on full wheel surface.
		roundness of wheel surface	0.8mm or less at wheel surface dia.
		Diameter difference of right and left wheels	1% or less at wheel surface dia.
	Hook	Wear of flange width	50% or less of full size thickness. However, monorail type is 50% or less of wheel surface for max gap between flange and
		Wear of sling loop	10% or less of full size
		Opening of hook	not to be deformed.
		Hook damage	Not to be cracked on hook surface.
		Thread part condition of hook	Not to be cracked and worn.
	Wire rope	Wear of groove	30% or less of wire rope dia.
		Deformation corrosion etc,	Not to be remarkably deformed and corroded.
Rope end condition		Not to be cut and corroded.	
Load chain	Length of wire rope	Specified length is to be ensured.	
	Corrosion, etc.	Not to be remarkably corroded.	
Shaft joint	Chain end condition	End metal is to be correctly fixed.	
	Conditions of key, key groove and spline	Not to be deformed, loosened and worn.	
	Joint damage	Not to be remarkably worn.	
Electric part	Switches	Wear of contact	50% or less of full size thickness
		Wear of mechanism	To be correctly operated.
	Collector wheel	Wear of wheel contact face	20% or less of full dia.
		Gap between wheel hole dia. and shaft	20% or less of full shaft dia.
	Cable	Cabtyre cable	Not to be damaged, deteriorated and interrupted. Other abnormal conditions are not to be found.
		Lead wires	
		Cable hangers	
	Power circuit	Electric wire on trolley wire routing side	Check operation coil end of magnet SW is connected to trolley install side.
Power switch conditions		Not to be damaged.	
Insulation	Inside of power switches	Connection lines are not to be loosened and damaged. Suitable fuses are to be connected.	
	Grounding	Insulation resistance value of entire circuit Class 200V 0.2K Ω or more Class 400V 0.4M Ω or more	
Assembly	Assembly	Lubrication oil (oiling)	Specified oil is to be adequately lubricated.
	Assembly	Assembly	To be assembled as specified.
Inspection scaffold	Inspection scaffold on construction side	Condition of inspection scaffold ladder	Not to be shaken and damaged.
		Mounting condition of inspection scaffold	Not to be shaken and damaged.
		Floor condition of inspection scaffold	Not to be slipped and stumbled.
	Movable	Conditions of carrying and elevating devices	Not to be abnormal.

	inspection table	Brake condition	Not to securely locked.
		Hand rails and other protecting devices	Not to be damaged, and to be safety.
Trial run	No-load run	Inspection before trial run	To be free from obstruction.
		No-load operation	To be run in accordance with indications of push buttons. Not to be noise.
		Limit SW	To be correctly stopped on upper limit position.
	Rated load test	With the rated load hoisted at center of crane span, measure deflection and reversion of crane girder.	Deflection of 1/800 or less of span is to be completely reversed.
		Wind and unwind hoist.	Noise and vibration are not to be occurred.
		Electromagnetic brake	Hook slippage is to be 1% or less of winding distance for 1 minute after releasing push button SW while hoisting.
		Cross travel of hoist	Noise and vibration are not to be occurred.
		Traveling of crane	Noise is not to be occurred on run-way and crane.
	Mechanical brake	Function suspended in midair	Hoisted load is to be maintained after loosening electromagnetic brake.