

**Project Name: Testing & Validation** 

**Scope: Testing & Validation for Backhoe loader** 

• Complete Protobuild, Testing & Validation has been carried out at the Center according the Testing standards specified.

Clas	Duadust Standards / Fastures	
SI no	Product Standards / Features	
1	Machine Safety Directive	
2	General Requirements Earthmoving m/c	
	Backhoe Loader -	
3	Safety Requirements Earthmoving m/c	
	Backhoe Loader -	
Regulation Tests		
4	Stability	
5	Fluid Fill Capacities	
6	Visibility	
7	Noise Test	
8	Cab Noise	
9	Brake Testing(Service & Parking)	
10	Dead Engine Steer	
11	Weight distribution	
12	Speed in each Gear(Speedo Calibration)	
13	Steering Effort	









**Project Name: Testing & Validation** 

**Scope: Testing & Validation for Backhoe loader** 

SI no	Product Standards / Features	
Performance Tests(Hydraulics)		
14	Relief Valve Settings	
15	Ram installation	
16	Control lever Efforts	
17	Pressure Drops	
18	Hydraulic Cleanliness	
19	Cycle Times	
Stall Tests		
20	Hydraulic	
21	Torque Converter	
22	Combined	
Engine		
22	Exhaust Back Pressure	
23	Induction Depression	
24	Coolant Fill Rate	
25	Water Expansion Volume	
26	Hot Shut Down	
Loader Performance		
27	Tilt Tear Out	
28	Beam Tear Out	
29	Lift Capacity	





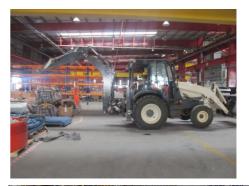
**Project Name: Testing & Validation** 

**Scope: Testing & Validation for Backhoe loader** 



SI no	Product Standards / Features	
Excavator Performance		
30	Dipper Tear Out	
31	Bucket Break Out	
32	Lift Capacity	
33	Craining	
34	Slew Torque	
Electrical Circuit Performance		
35	Electrical Load Balance	
36	Light Position Effectiveness	
37	Connector Sealing-IP69	
38	Alternator Performance	
39	Starter Performance	
40	Battery Performance	











**Project Name: Testing & Validation** 

**Scope: Testing & Validation for Backhoe loader** 

SI no	Product Standards / Features	
Cooling Trials		
41	Roading	
42	Basement Digging	
43	Loading	
44	Excavating	
46	Fuel Consumption	
47	Work Output	
48	Operating Angle Conformance	
49	Drawbar Pull	
50	Hand & Foot Throttle Operation	
51	Brake System Bleed	
52	Park Brake hold on Slope	
53	Overall dimension Check	
54	Turning Circle Radius	







**Project Name: Testing & Validation** 

**Scope: Testing & Validation for Backhoe loader** 

SI no	Product Standards / Features	
Supplier Sign Off (Driveline)		
55	Wheel/Tyre Assembly	
56	Steering Cylinder Checks	
57	Axles	
58	Gearbox	
59	Torque Converter	
60	Engine	
61	Exhaust	
62	Induction	
63	Cooling Pack	
64	Master Cylinder	
	Supplier Sign Off (Hydraulics)	
65	Filtration	
66	Digger Loader Valves	
67	Pumps	
68	Hosing	
69	Steering	
70	Rams	



**Project Name: Testing & Validation** 

Scope: Testing & Validation for Backhoe loader

SI no	Product Standards / Features	
(Cab Testing)		
71	Water Ingres	
72	Door Slam	
73	Vibration Endurance	
74	Rear Window Endurance	
75	ROP/FOPS	
76	Windscreens	
77	Grab Handles	
78	Cab Combustion Test	
Regulation Tests		
79	Regulation Tests at VRDE	
80	Calculations	