

TEST REPORT



Title: D P Garg & Co Pvt Ltd
Zinc Lever Handle
11 inch Backplate with H10 Lever -
Evaluation to EN 1906

Report Number: WTE-08-045

On behalf of: D P Garg & Co Pvt Ltd
B - 210B
Phase - 2
Noida
201305
India

Date: 18 October 2018

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Introduction

It was requested that White Technology and Engineering Ltd carry out an evaluation of the D P Garg & Co Pvt Ltd Zinc Lever Handle 11 inch backplate with H10 Lever to EN 1906:2012 to the following grade:

1	2	3	4	5	6	7	8
Category of use	Durability	Door Mass	Fire resistance	Safety	Corrosion Resistance	Security	Type of Operation
3	7	-	0	0	0	0	A

This was a retest of the handle which had revised springing following a failure as detailed in WTS-18-032.

The results are presented below:

Samples

2 Samples of the D P Garg & Co Pvt Ltd, Zinc Lever Handle, 11 inch backplate with H10 Lever were supplied.

This handle type was considered to be the worst case in the range comprising:

4", 6", 7", 8", 9", 10" Backplate

51mm, 54mm Round Rose

69.5mm Oval Rose

56mm, 60mm Square Rose

H1, H2, H3, H4, H5, H6, H7, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19, H20, H22, H23, H24, H26, H27, H28, H29, H30, H31, H33, H34, H35, H36, H37, H46, H47 Levers

These handles were described as having revised springs.

Samples were supplied on 5 October 2018.

Results

Test 1 Check of spindle and fastening elements

Box 1	1	2	3	4
Spindle/fastenings	Pass	Pass	Pass	Pass
Fitting information	Pass	Pass	Pass	Pass
Pass/Fail	Pass	Pass	Pass	Pass

Test 2 Axial strength of lock furniture or latch furniture and fixing

Box 1	1	2	3	4
Load (N)	300	500	800	1000
Permanent deformation (2 mm)	0	0	1.4	N/T
Pass/Fail	Pass	Pass	Pass	N/T

Test 3 Free play and safety

Requirement for free play

Box 1		1	2	3	4
Deflection (mm)		10	10	6	6
Free play under 15N load - At rest	0.2 mm	Pass	Pass	Pass	Pass
Free play under 15N load - 40°	0.3 mm	Pass	Pass	Pass	Pass
Pass/Fail		Pass	Pass	Pass	Pass

Safety

Injurious Features (Y/N)	No
Pass/Fail	Pass

Test 4 Free angular movement or misalignment

Box 1		1	2	3	4
Movement (mm)		10	10	5	5
Angular movement under 15N load	0.4 mm	Pass	Pass	Pass	Pass
Pass/Fail		Pass	Pass	Pass	Pass

Test 5 Torque of return mechanism

Spring assisted lever handles

Box 1		1	2	3	4
Operate (Nm)		1.5	1.5	2.4	2.4
Return (Nm)		0.6	0.6	1.5	1.5
Angle (°)		40	40	40	40
Operate moment (Nm)	1.8 Nm	Fail	Fail	Pass	Pass
Return moment (Nm)	0 Nm	Pass	Pass	Pass	Pass
Angle of operation (Pass/Fail)	40 °	Pass SA	Pass SA	Pass SA	Pass SA
Pass/Fail		Fail	Fail	Pass	Pass

Test 6 Durability of mechanism

Box 1	1	2	3	4
Cycles	100,000	100,000	200,000	200,000
Continues to function	Pass	Pass	Pass	Pass
Pass/Fail	Pass	Pass	Pass	Pass

Test 7 Repeat test of axial strength of lock or latch furniture and methods of fixing

Box 1	1	2	3	4
Load (N)	300	500	800	1000
Permanent deformation (2 mm)	N/T	0.8	1.2	N/T
Pass/Fail	N/T	Pass	Pass	N/T

Test 8 Repeat test of free play measurement

Box 1	1	2	3	4
Deflection (mm)	10	10	6	6
Free play under 15N load - At rest	0.3	0.3	0.3	0.3
Free play under 15N load - 40°	0.5	0.5	0.5	0.5
Pass/Fail	Pass	Pass	Pass	Pass

Test 9 Repeat test of measurement of free angular movement or misalignment

Box 1		1	2	3	4
Movement (mm)		10	10	5	5
Angular movement under 15N load		2.4	2.4	4.2	4.2
Pass/Fail		Pass	Pass	Pass	Pass

Test 10 Repeat test of torque of return mechanism

Spring assisted lever handles

Box 1		1	2	3	4
Operate (Nm)		1.5	1.5	2.4	2.4
Return (Nm)		0.6	0.6	1.5	1.5
Angle (°)		40	40	40	40
Operate moment (Nm)		1.9	1.9	1.9	1.9
Return moment (Nm)		0	0	0	0
Angle of operation (Pass/Fail)		40.1	40.1	41.1	41.1
Pass/Fail		Fail	Fail	Pass	Pass

Test 11 Applicable to special safety furniture only.

Not applicable.

Test 12 Rotational torque strength

Box 1		1	2	3	4
Torque (Nm)		20	30	40	60
Permanent deformation (5mm)	N/T		0.3	0.4	N/T
Functional check (Pass/Fail)	N/T		Pass	Pass	N/T
Pass/Fail		N/T	Pass	Pass	N/T

Test 13 Corrosion resistance

Not applicable.

Box 6	1 Internal only	2 Internal only	3	4	5
Appearance					
Pass/Fail					

Summary

Test No.	Requirement	Classification Box	CEN Grade
1	Check of spindle and fastening elements	1	4
	Fitting information	1	4
2	Axial strength of lock furniture or latch furniture and fixing	1	3
3	Free play	1	4
	Safety	1	4
4	Free angular movement or misalignment	1	4
5	Torque of return mechanism (spring assisted lever handles)	1	4
6	Durability of mechanism	1	4
7	Repeat test of axial strength of lock or latch furniture and methods of fixing	1	3
8	Repeat test of free play measurement	1	4
9	Repeat test of measurement of free angular movement or misalignment	1	4
10	Repeat test of torque of return mechanism	1	4
11	Axial strength for safety furniture	1	N/A
12	Rotational torque strength	1	3
13	Corrosion	6	N/A

N/A: Test not applicable for grade submitted.

N/T: Test not carried out due to design of handle

No inferences can be made regarding performance against other requirements of this standard

Overall EN 1906:2012 Classification attained.

1	2	3	4	5	6	7	8
Category of use	Durability	Door Mass	Fire resistance	Safety	Corrosion Resistance	Security	Type of Operation
3	7	-	0	0	0	0	A

Report authorised by:



Dr Martin White
Director

Date: 18 October 2018

REPORT ENDS

Appendix A – Photographs of Sample



D P Garg & Co Pvt Ltd Zinc Lever Handle - 11 inch backplate with H10 Lever