

Technical report

Fitness for use

Date of issue 2013-06-26



China

Applicant: ISC GmbH – International Service Center
Eschenstraße 6, 94405 Landau/Isar, Germany

Test subject: Comparison test of electric sander Bosch PEX 400 AE and Einhell TE-RS 40 E

Test specification: According to project no. 70.403.11.555.20-00 and 48.403.13.0221.00

	Bosch PEX 400 AE (70.403.11.555.20-00)	Einhell TE-RS 40 E (48.403.13.0221.00)
Technical data	<p>Rated voltage: 230V~;</p> <p>Rated input power: 400W;</p> <p>Rated no load speed: 4,500-13,000 m/min</p> <p>Orbital stroke rate : 9,000-26,000 min⁻¹</p> <p>Orbit diameter: 125 mm</p>	<p>Rated voltage: 230V~;</p> <p>Rated input power: 400W;</p> <p>Rated no load speed: 6,000-12,000 m/min</p> <p>Orbital stroke rate : 12,000-24,000 min⁻¹</p> <p>Orbit diameter: 125 mm</p>
Product overview		

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Results overview		
	Bosch PEX 400 AE	Einhell TE-RS 40 E
1. Durability	--	++
2. Function	+	+
3. Handling	+	+
4. Miscellaneous and further criterions	(+)	(+)

Possible test case verdicts	
++	Very good
+	Good
0	Satisfactory
-	Sufficient
--	Poor
N	Not applicable

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Main test results

Test criterion	Bosch PEX 400 AE	Einhell TE-RS 40 E	Remark
1. Durability			
1.1 Rating for running time	168 cycles (28.0h) / --	> 500 cycles (the first sample 510 cycles, 85h, the second sample 570 cycles, 95h; the third sample 660 cycles, 110h) / ++	For durability-test of Bosch power-tool, only one sample was tested. Connection to terminal of Bosch PEX 400 AE was broken after running 168 cycles (rating: Poor). The test of Einhell TE-RS 40 E was stopped till carbon brushes used up for all 3 samples, rating: Very good. See Annex A VIII.
2. Function test			
2.1 Rough sanding of pine wood	+	+	Bosch PEX 400 AE average power consumption at 97.0% of rated power. Einhell TE-RS 40 E average power consumption at 90% of rated power. Both good working progresses. Easy to control appliance.
2.2 Fine sanding of pine wood	+	+	Bosch PEX 400 AE average power consumption at 95.5% of rated power. Einhell TE-RS 40 E average power consumption at 97% of rated power. Both good working progresses. Easy to control appliance.
2.3 Sanding off paint from wood	+	+	Bosch PEX 400 AE average power consumption at 108.6% of rated power. Einhell TE-RS 40 E average power consumption at 92% of rated power. Both good working progresses. Easy to control appliance.
2.4 Derusting steel	+	+	Bosch PEX 400 AE average power consumption at 83.4% of rated power. Einhell TE-RS 40 E average power consumption at 89% of rated power. Both good working progresses. Easy to control appliance.
2.5 Dust exhaustion	+	+	Bosch PEX 400 AE 61.5% dust collected by connection with dust bag. Einhell TE-RS 40 E 47% dust collected by connection with dust bag. Both good working progresses. Easy to control appliance.
3. Handling, adjustment and workmanship			
3.1 Sharp edges except needed for functional means	+	0	Both power-tools show adequate workmanship. Einhell TE-RS 40 E has slight assembly gaps on dust outlet. See Annex A VII.

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3.2 Power switch/ operation	+	+	Both appliances' power switches convenient to operate.
3.3 Speed setting wheel	+	+	Both have clear markings, and convenient to adjust.
3.4 Sanding paper	+	+	Easy to change sanding paper for both appliances.
3.5 Noise and vibration	0	0	Within the normal range of this product group.
3.6 Balance and centre of gravity	++	++	Plate makes both appliances have well balance.
3.7 Dust collecting box	-	+	Bosch PEX 400 AE chips outlet shape is special, no adaptor provided, difficult to connect with vacuum cleaner. Einhell TE-RS 40 E chips outlet sharp is round, vacuum cleaner could be connected.
3.8 Operation by left handed person	+	+	Symmetric design at both power-tools.
3.9 Cleaning with cloths and brush	0	0	Enclosures of both power-tools have many edges and recesses.
3.10 Handles	+	+	Both power-tools have handles with ergonomic shapes. Einhell TE-RS 40 E has partly rubberized main handle.
3.11 Power cord/ length/ type	+ / +	++ / +	Bosch PEX 400 AE has power cord length 2.42m type H05VV-F, 2x1.0mm ² . Einhell TE-RS 40 E has power cord length 3.05m type H05VV-F, 2x0.75mm ² .
3.12 Storage case	+	+	Both, Bosch and Einhell provide a storage box which is advantageously for power-tools having different attachments.
4. Miscellaneous and further criterions			
4.1 Mass and size	(+)	(+)	Mass of Einhell TE-RS 40 E is about 440g less than Bosch PEX 400 AE. Power cord of Einhell TE-RS 40 E is 0.63m longer than Bosch PEX 400 AE. Overall dimensions of Einhell TE-RS 40 E are bigger than Bosch PEX 400 AE.

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Annex A: Photo documentation

<p>A I: Handles and ergo- nomics</p>		
<p>Remark</p>	<p>Einhell TE-RS 40 E with partly rubberized handle.</p>	
<p>A II: Second handle</p>		
<p>Remark</p>	<p>Einhell TE-RS 40 E with partly rubberized handle.</p>	

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A III: Switches, operation		
Remark	ON/OFF switches of both power-tools are easy to operate.	
A IV: Speed regulator		
Remark	Speed regulators of both power-tools are easy to adjust.	


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A V: Chips outlet		
Remark	Bosch PEX 400 AE has a special shape chips outlet, inconvenient to connect with vacuum cleaner.	
A VI: Dust box		
Remark	Both power-tools have dust boxes provided. Convenient to connect.	

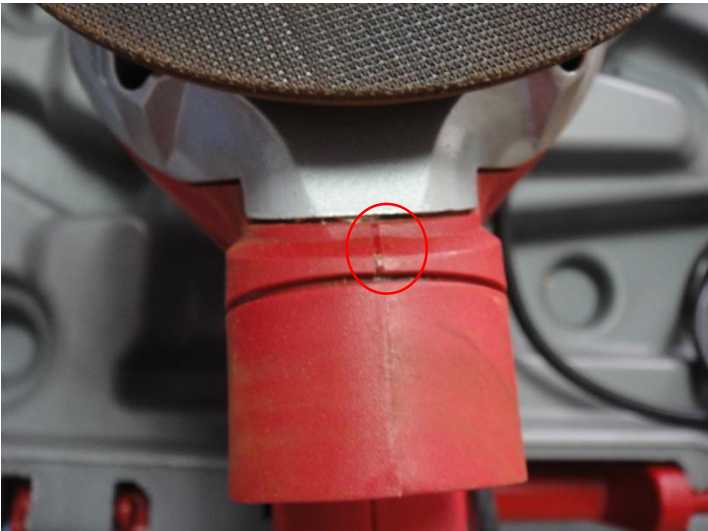

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A VII: Assembly gap		
Remark	Einhell TE-RS 40 E has slight assembly gaps on chips outlet.	
A VIII: Durability test result		
Remark	For durability-test of Bosch power-tool, only one sample was tested. Connection to terminal of Bosch PEX 400 AE was broken after running 168 cycles (rating: Poor). The test of Einhell TE-RS 40 E was stopped till carbon brushes used up for all 3 samples, rating: Very good.	

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Jiangsu TUV Product Service Ltd.
Shanghai Branch

A handwritten signature in black ink, appearing to read "Xie Qifeng".

Prepared by Qifeng XIE

A handwritten signature in black ink, appearing to read "Lutz Langguth".

Reviewed by Lutz LANGGUTH