

IEC60745_2_3C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60745-2-3 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS - SAFETY PART 2: PARTICULAR REQUIREMENTS FOR GRINDERS, POLISHERS AND DISK-TYPE SANDERS)	
Differences according to	EN 60745-2-3:2011+A2:2013+A11:2014+ A12:2014 +A13:2015 used in conjunction with EN 60745-1:2009+A11:2010
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6	ENVIRONMENTAL REQUIREMENTS		
6.1.2.4	<i>Modification:</i> Grinders, polishers and disk-type sanders are suspended.		P
	For angle and vertical tools, the wheel or pad is horizontal.		P
	For straight tools, the wheel or pad is vertical.		N/A
6.1.2.5	<i>Modification:</i> Grinders, polishers and disk-type sanders are tested at no-load		P
6.2.6.3	Operating conditions		P
	<i>Addition:</i> The weight of the tool is considered the weight of the complete tool as prepared for the test with all equipment needed for normal use and with the artificial wheel mounted, but without the cable.		P
	Weight of the tool (kg)	6 kg	P
6.2.6.3.101	Grinding		N/A
	<i>Addition:</i> Tools for grinding applications are tested under load by using the artificial wheel under the conditions described below in Table Z101 for angle grinding and in Table Z104 for straight grinding.		N/A
6.2.6.3.102	Polishing		N/A
	<i>Addition:</i> Tools for polishing applications are tested under load and under the conditions described in Table Z106.		N/A
6.2.6.3.103	Disc-type sanding		P

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	<i>Addition:</i> Tools for disc-type sanding applications are tested under load and under the conditions described in Table Z107.		P
6.2.7.1	Reported vibration value (vibration total values (triax vector sum) <i>Addition:</i>		P
	Work mode – straight grinding		N/A
	Vibration emission value $a_{h,SG}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode – angle grinding		N/A
	Vibration emission value $a_{h,AG}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode - polishing		N/A
	Vibration emission value $a_{h,P}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode – disc type sanding		P
	Vibration emission value $a_{h,DS}$ (m/s ²)	See report 6070460.50A	P
	Uncertainty K (m/s ²)	See report 6070460.50A	P
6.2.7.2	Declaration of the vibration emission value (instruction manual) <i>Addition:</i>		P
	Work mode – straight grinding		N/A
	Vibration emission value $a_{h,SG}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode – angle grinding		N/A
	Vibration emission value $a_{h,AG}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode - polishing		N/A
	Vibration emission value $a_{h,P}$ (m/s ²)		N/A
	Uncertainty K (m/s ²)		N/A
	Work mode – disc type sanding		P
	Vibration emission value $a_{h,DS}$ (m/s ²)	See report 6070460.50A	P
	Uncertainty K (m/s ²)	See report 6070460.50A	P
18	ABNORMAL OPERATION		P
18.10	<i>Addition:</i> Functionality of an electronic restart prevention device is disregarded		N/A

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19	MECHANICAL HAZARDS		P
19.10	Addition: When wheel guards have to be removed while maintenance procedure, the fastenings shall remain attached to the guard or to the tool		N/A
21	CONSTRUCTION		P
21.18.1	<i>Replacement:</i> The switch is of momentary contact type.		N/A
	For single phase angle grinders with a rated capacity greater than 155 mm and for single phase straight grinders with a rated capacity greater than 130 mm, either		N/A
	the mains switch automatically switches off the motor as soon as the actuating member of the switch is released and has no locking arrangement in the "on" position, or		N/A
	the tool does not restart after an interruption of the mains supply without releasing and re-actuating the switch. In this case, a lock-on device is allowed provided that two dissimilar actions are necessary to lock the switch in the "on" position, in addition, only a single motion to the actuating member of the switch is required for the switch to automatically return to the "off position.		N/A
	The restart prevention device has a Safety Integrity Level SIL 1 (EN 62061), or a performance level PL=b (EN ISO 13849-1)		N/A
	For all other tools:		N/A
	a lock-on device is allowed provided that two dissimilar actions are necessary to lock the switch in the "on" position, in addition, only a single motion to the actuating member of the switch is required for the switch to automatically return to the "off position.		N/A
21.Z1	<i>Addition:</i> Disc-type sanders exclusively for sanding wooden floors are considered to be tools where a considerable amount of dust is produced.		N/A

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21.18.1	<i>Replacement:</i> The switch is of momentary contact type.		P
	For single phase grinders either		
	the mains switch automatically switches off the motor as soon as the actuating member of the switch is released and has no locking arrangement in the "on" position, or		N/A
	The tool does not restart after an interruption of the mains supply without releasing and re-actuating the switch. In this case, a lock-on device is allowed provided that two dissimilar actions are necessary to lock the switch in the "on" position, in addition, only a single motion to the actuating member of the switch is be required for the switch to automatically return to the "off position.		N/A
	The restart prevention device has a Safety Integrity Level SIL 1 (EN 62061), or a performance level PL=b (EN ISO 13849-1)		N/A
	For all other tools:		N/A
	a lock-on device is allowed provided that two dissimilar actions are necessary to lock the switch in the "on" position, in addition, only a single motion to the actuating member of the switch is be required for the switch to automatically return to the "off position.		N/A

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19.104	<i>Replacement:</i> Flanges required by 19.102 designed so that they secure and locate the abrasive products to grinder		N/A
	At least one of the flanges is keyed, screwed, shrunk or otherwise secured to prevent rotation relative to the tool spindle		N/A
	Flanges are flat and have no sharp edges		N/A
	The flanges have the dimensions specified in 19.104.1 and 19.104.2 and illustrated in Figure 104 where D is the outside diameter of the abrasive wheel, G and W are the dimensions of the recess and D_f is the outside diameter of the flange clamping surface.		N/A
	The outer dimensions of the locking flange shall be limited so that there is no interference with the depressed centre of Type 27, 28 or 42 wheels in accordance with ISO 603-14:1999 and ISO 603-16:1999.		N/A
	Flanges for wheels under 55 mm diameter are, optionally, not recessed		N/A
	For wheels of any diameter with threaded inserts or projecting studs, the flanges are not recessed (i.e., $G = 0$)		N/A
	The backing and the locking flange have the same diameter D_f , or the overlap of the backing and locking flange bearing surfaces are at least equal to dimension C		N/A
	In order to prevent interference, the locking flange and/or nut shall not extend beyond the plane defined by the lip of the guard when mounted with the thickest recommended Type 27, 28 or 29 wheel.		N/A

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EN 60745-2-3:2011/A13:2015			
19	Mechanical hazards		
	Replace the existing Subclause 19.104 by the following:		
19.104	Flanges required by 19.102 shall be designed so that they secure and locate the abrasive products to the grinder. At least one of the flanges shall be keyed, screwed, shrunk-on or otherwise secured to prevent rotation relative to the tool spindle.		N/A
	The flanges shall be flat and have no sharp edges.		N/A
	The flanges shall have the dimensions specified in 19.104.1 and 19.104.2 and illustrated in Figure 104, where D is the outside diameter of the abrasive wheel, G and W are the dimensions of the recess and Df is the outside diameter of the flange clamping surface. The outer dimensions of the locking flange shall be limited so that there is no interference with the depressed centre of wheels in accordance with ISO 603-14:1999 and ISO 603-16:1999 as illustrated in Figure Z107 with the dimensions ØK, R and F as specified in Table Z108.		N/A
	Flanges for wheels under 55 mm diameter may be unrecessed.		N/A
	For wheels of any diameter with threaded inserts or projecting studs, the flanges shall be unrecessed, i.e. G = 0.		N/A
	The backing and the locking flange shall have the same diameter Df or the overlap of the backing and locking flange bearing surfaces shall be at least equal to dimension C.		N/A
	In order to prevent interference, the locking flange and/or nut shall not extend beyond the plane defined by the lip of the guard when mounted with the thickest recommended Type 27, 28 or 29 wheel.		N/A

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