



## Performance of tools according to VDI/VDE 2647

<i>General information</i>		
<b>Testing date:</b>	March 2021	
<i>General information about tool</i>		
<b>Manufacturer:</b>	Desoutter	
<b>Machine type:</b>	CVI3 Tool	
<b>Model:</b>	EFD43-15	
<b>Part number:</b>	6151662050	
<b>Square:</b>	3/8	
<b>Maximum speed:</b>	2000 rpm	
<b>Minimal torque:</b>	3 Nm	2,2128 ft,lb
<b>Nominal torque</b>	15 Nm	11,064 ft,lb
<b>Maximum torque:</b>	17 Nm	12,5392 ft,lb
<b>Weight</b>	1,8 Kgs	3,96 lb
<b>Length</b>	372 mm	14,646 "
<b>Serial number:</b>	21A90513	
	21A90514	
	21A90515	
<i>Picture of tool</i>		



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### Tightening at torque

<i>Value for the duration of break between cycles</i>					
<b>30% soft:</b>	5		<b>30 % hard:</b>		5
<b>80% soft:</b>	20		<b>80 % hard:</b>		20
<b>100% soft:</b>	45		<b>100 % hard</b>		45
<i>Number of tightenings for the test</i>					
<b>30 % of the torque range:</b>	100				
<b>80 % of the torque range:</b>	100				
<b>100 % of the torque range:</b>	100				
<i>Number of free speed</i>					
<b>All torque range:</b>	4				
<i>Torque test - test point specification</i>					
<i>Torque and torsion tested</i>					
<b>P1: 30 % of the torque range:</b>	7,3 N.m	<b>Soft:</b>	30°	<b>Hard:</b>	360°
<b>P2: 80 % of the torque range:</b>	12,8 N.m	<b>Soft:</b>	30°	<b>Hard:</b>	360°
<b>P3: 100 % of the torque range:</b>	15,0 N.m	<b>Soft:</b>	30°	<b>Hard:</b>	360°
<i>Revolutions per minute</i>					
<i>30 % of the torque range</i>					
Hard	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	27 Rpm
Soft	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	27 Rpm
<i>80 % of the torque range</i>					
Hard	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	48 Rpm
Soft	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	48 Rpm
<i>100 % of the torque range</i>					
Hard	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	50 Rpm
Soft	<b>Rundown speed (Rpm):</b>	50 Rpm		<b>Downshift speed (Rpm):</b>	50 Rpm
<i>Torsion angle start moment (Angle threshold)</i>					
<b>30 % of the torque range:</b>	<b>Soft:</b>		3,65 Nm	<b>Hard:</b>	3,65 Nm
<b>80 % of the torque range:</b>	<b>Soft:</b>		6,40 Nm	<b>Hard:</b>	6,40 Nm
<b>100 % of the torque range:</b>	<b>Soft:</b>		7,50 Nm	<b>Hard:</b>	7,50 Nm
<i>Downshift torque</i>					
<b>30 % of the torque range:</b>	<b>Soft:</b>		0,6 Nm	<b>Hard:</b>	0,6 Nm
<b>80 % of the torque range:</b>	<b>Soft:</b>		1,0 Nm	<b>Hard:</b>	1,0 Nm
<b>100 % of the torque range:</b>	<b>Soft:</b>		1,2 Nm	<b>Hard:</b>	1,2 Nm
<i>Information for tightening with a battery tool</i>					
<i>Numbers of battery used for the tightening</i>					
<b>30 % of the torque range:</b>	<b>Soft:</b>		0	<b>Hard:</b>	0
<b>80 % of the torque range:</b>	<b>Soft:</b>		0	<b>Hard:</b>	0
<b>100 % of the torque range:</b>	<b>Soft:</b>		0	<b>Hard:</b>	0



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### Tightening at angle

<i>Value for the duration of break between cycles</i>			
40°	10 s		
180°	20 s		
<i>Number of tightening for the test</i>			
<i>Tightening hard</i>	100		
<i>Tightening soft</i>	100		
<i>Number of free speed</i>			
<i>All tightening:</i>	4		
<i>Rotation angle test - test points specification</i>			
<i>Rotation angle</i>			
<i>Hard of 50 at 100% of tightening</i>	40°		
<i>Soft of 50 at 100% of tightening</i>	180°		
<i>Revolutions per minute</i>			
<i>40 °</i>			
<i>Rundown speed (Rpm):</i>	50 rpm		<i>Downshift speed (Rpm):</i> 34 rpm
<i>180°</i>			
<i>Rundown speed (Rpm):</i>	50 rpm		<i>Downshift speed (Rpm):</i> 45 rpm
<i>Torsion angle start moment (Angle threshold)</i>			
<i>40° (20% of torque range)</i>	3,0 Nm		
<i>180° (20% of the torque range)</i>	3,0 Nm		
<i>Target torque</i>			
<i>40° (60 % of the torque range)</i>	9,0 Nm		
<i>180° (80 % of the torque range)</i>	12,0 Nm		
<i>Information for tightening with a battery tool</i>			
<i>Numbers of battery used for the tightening</i>			
40°			
180°			



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### Torque tightening test

Test point		30%		80%		100%		
Test torque		7,3 N.m		12,8 N.m		15 N.m		
Joints (of 50 at 100% of tightening)		hard (30°) (±5°)	soft (360°) (±15°)	hard (30°) (±5°)	soft (360°) (±15°)	hard (30°) (±5°)	soft (360°) (±15°)	
Torque tolerance upper limit (Nm)		7,8	7,8	13,7	13,7	16,1	16,1	
Torque tolerance lower limit (Nm)		6,8	6,8	11,9	11,9	14,0	14,0	
Tolerance interval * ( ± )		7%	7%	7%	7%	7%	7%	
Serial numbers	21A90513	Cm	3,78	6,04	7,69	12,20	9,66	12,66
		Cmk	3,52	5,78	7,15	11,91	8,65	12,56
	21A90514	Cm	3,94	6,75	7,75	13,52	8,90	13,14
		Cmk	3,47	5,56	6,36	12,06	7,31	11,91
	21A90515	Cm	3,54	7,28	8,76	11,35	8,21	13,65
		Cmk	2,99	6,51	6,36	9,30	5,98	10,91

Min Cm/Cmk	Cm	3,54	6,04	7,69	11,35	8,21	12,66
	Cmk	2,99	5,56	6,36	9,30	5,98	10,91

	Cm >2 *	Cmk >1,67 *	
Index Min Cm	3,54	/	Compliant
Index Min Cmk	/	2,99	Compliant

### Angle tightening test

			hard	soft
Angle tested (of 50 at 100% of tightening)			40°	180°
Target torque			9,0 Nm	12,0 Nm
Serial numbers	21A90513	IT ( ± ) (torque)	1,2%	0,9%
		IT ( ± ) (angle)	1,3 °	2,4 °
	21A90514	IT ( ± ) (torque)	1,0%	0,7%
		IT ( ± ) (angle)	1,3 °	2,5 °
	21A90515	IT ( ± ) (torque)	0,9%	0,7%
		IT ( ± ) (angle)	1,0 °	2,1 °

		hard 40°	soft 180°	hard 40°	soft 180°
Index IT ( ± ) (torque)	Must be	< 7%*	< 7%*	Compliant	Compliant
	Max is	1,2%	0,9%		
Index IT ( ± ) (angle)	Must be	Hard < 5° *	Soft < 15° *	Compliant	Compliant
	Max is	1,3 °	2,5 °		

**(\*) Informations for reference**