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15.04.05

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1.1	(-)	66 60 65 60	10 5 0	
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1	2	3	4	5	6	7
1.				- ; -	49	0,055681
2.				; -	33	0,0375
3.	- -			; - ,	82,5	0,09375
4.				-	33	0,0375

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1	2	3	4	5	6	7
				;; -		
5.	-			; - , -	56,5	0,0642045
6.				; - ,	49	0,0556818
7.	, -			;; -	49,5	0,05625
8.	, - -			;; -	49	0,055681
9.		-		; ; - , -	72	0,081818
10.	- -			; ; - , -	49	0,0556818
11.	- - -			; - , -	33	0,0375

1	2	3	4	5	6	7
12.	- -			- -	33	0,0375
13.	- - - -			- - - -	49,5	0,0562
14.	- - - -			- - - -	72	0,0818
15.	- -			- -	66,5	0,0755
16.	-			-	65,5	0,0744
17.	-			-	65,5	0,0744
18.	-			-	34,5	0,0392
19.				- -	49,5	0,0562

1	2	3	4	5	6	7
20.				- ; -	66,5	0,0755
21.				- ; - ,	66,5	0,0755
22.	(-)			- ; - ,	7,5	0,0085
				- ; -	2,5	0,0028
				- ; ; - ,	2,5	0,0028
23.	()			- ; - ,	7,5	0,0085
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				-	5	0,0056
				; -	5	0,0056
25.	()			; ; - , -	4,5	0,005
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26.				- , -	4,5	0,005
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				; ; - , -	4,5	0,005

1	2	3	4	5	6	7
			-		6,5	0,0074
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			-		4,5	0,005
			-		4,5	0,005
27.				- - ; - , - -	100	0,1136
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1	2	3	4	5	6
1.		« » . " " ", .	2021 . .	40,7 , (1984 . 2017 . 2017 . 2019 2019 2021 , . 2021 .)	0,0124
2.		« », . ,	« », .	14,5 , (2009 . 2013 . - 2013 . . .)	0,01
3.		‘ ’, .	‘ ’, .	11 (.2012 2020 - -	0,01

1	2	3	4	5	6
				“ ” , . , 2020 . . ‘ ”	
4.		" " " . . (“ ”)	“ ” ,	16 (.2007 2020 - 2020 . . ,)	0,01
5.		« » , . .	-	5 (2014 . 2019)	0,16
6.		« » , . .	-	5 (2014 . 2019)	0,81
7.		, . , ; 5, . , - , « » , . « » , . - , . « » , . « » , . . .	, -	12,6 (08.1961 . 12.1961 , , 03.1962 . 08.1962 . - , 08.1962 . 08.1964 ., 04.1968 . 04.1972 ., , 08.1970 . 06.1971 , , (2014 . 2019)	0,05

1	2	3	4	5	6
8.		“ , ” .	2014 2021	7	0,056

1. - , 8
2. , - , 1,116

1	2	3	4	5	6	7	8
1						<p>Sviatskii, V. Determination of melting unit productivity when producing synthetic fibrous materials by vertical blowing method / V. Sviatskii, P. Božek, M. Sokolov // 2018.</p>	<p>“ ” / // : - XXI - (15 2018, . -). . 65-67.</p>

				<p>(</p> <p>“ ” -</p> <p>193-04 15.08.2018):</p> <p>1. 2018. .24. 1. .104-115.</p> <p>31.08.2017 2422;</p> <p>2. 18-07- 20042.</p> <p>V-</p> <p>-</p> <p>«</p> <p>,</p> <p>- 2018".</p>	<p>• ”</p> <p>• ”</p> <p>• //</p>		
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					<p>Proceedings of the VI International scientific conference, North Charleston, USA, 27-28 February 2018. Section « Engineering». - North Charleston: CreateSpace, 2018. - 24, 2. - 307-317.</p>	<p>XXI (15 2018, . 68-70).</p>
				2.	<p>Sviatskii V., Holubek R., Ruzarovskiy R., Sokolov M. Design of the forming device with a vertical blow head for the production of synthetic fibers intended for filter process in the mining industry. // Acta Montanistica Slovaca . Volume 23 (2018), number 4, p. 412-421.</p>	<p>(- 2018): . V « » . 2018. .5. .3. .</p>

				110, 2020 . .1-14.		
				3.	V. SVIATSKII, P. BOZEK, M. SOKOLOV, Z. LUKASZCZYK. THE DESIGN TECHNIQUE OF MELTING UNITS FOR PRODUCTION OF SYNTHETIC FIBROUS MATERIALS BY VERTICAL BLOWING METHOD / Management Systems in Production Engineering - 2019, Volume 27, Issue 1, pp. 29-32.	. . . / . . . , (- 2018): . V « » . 2018. . 5. . 3. .
				- 2022. – . 28, 1. – . 103-110.		
				4.	V. Sviatskii, A. Mudrikova, R. Holubek , J. Hornik, M.Sokolov., "The Design of Melting Units for Production of Synthetic Fibrous Materials by Vertical Blowing Method from PET Raw Materials",	. . . / . . . , (- 2018): . V « » . 2018. . 5. . 3. .

					<p>//</p> <p>Materials Science Forum, Vol. 952, pp. 216-222, 2019.</p>	
				<p>- 2022. – . 28, 2. – . 305- 315.</p>		
				<p>5.</p> <p>“Python” /</p> <p>..” .. //</p>		<p>..</p> <p>.. // / ..” ,</p> <p>(- 2018): . V .</p> <p>« ..» . 2018. .5. .3. .</p>
				<p>- 2022. – . 28,</p>		

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							<p style="text-align: right;">CLIPS</p> <p style="text-align: right;">/</p> <p>.. „ .. //</p> <p>’</p> <p>(- 2018):</p> <p>.V « . .- . . - .2018. .5.</p> <p>.3. .</p> <p>/</p> <p>.. „</p> <p>.. „</p> <p>.. „</p> <p>.. //</p> <p>- 2023. – .29,</p> <p>2. – .302-310.</p>
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							<p>...</p> <p>/ ... //</p> <p>(- 2019): . VI .</p> <p>« » . 2019. .5. .3. .</p>
							<p>...</p> <p>/ ... //</p>

							<p>’</p> <p>(- 2019): . VI .</p> <p>« » . 2019. .5. .3. .</p>
							<p>..</p> <p>/ . ,, . //</p> <p>,</p> <p>(- 2019): . VI .</p> <p>« » . 2019. .5. .3. .</p>
							<p>..</p> <p>/ . ,, . //</p> <p>,</p> <p>(- 2019): . VI .</p> <p>« » . 2019. .5. .3. .</p>
							<p>-</p> <p>/ . . .</p> <p>, . . . //</p> <p>- ,</p>

							(- 2019): . VI « » . 2020. . 6. . 2.
							/ . , . // - -2021. IV : 10 . , 2021.
							/ . , . , . // . , - . - . . .
							/ . // , (- 2022): . VIII . - . - « » . 2022
							Acoustic method for predicting wear tools for turning processing / . , . // , (- 2022): . VIII . - . - « » . 2022. . 8

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2022-2023

	.	.	%	.	%	.	%	.	%	.	%	
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2021-2022

	.	.	%	.	%	.	%	.	%	.	%	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	7	7	100	7	100	-	-	-	-	-	-	5
-	7	7	100	7	100	-	-	-	-	-	-	5

6

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1. « « »;
2. " " " " " "
3. (« ") « »;
4. « » . ;
5. « »
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		%
1.	?	90
2.	?	90
3.	?	80
4.	, ?	100
5.	() ?	90
6.	?	90
7.	?	90
8.	?	90
9.	?	90
10.	?	80
		89 %

	50%
	50% 65%
	65% 80%
	80% 100%

14

93%

		%
1.	?	78,9
2.	/ ?	81,4
3.	, ?	90,9
4.	?	76,0
5.	?	54,7
6.	?	83,1
7.	-	81,4
8.	?	80,4
9.	, ?	78,0
10.	?	77,0
11.	, , « » ,	86,1
12.	, , ..	80,7
13.	, ,	85,1
14.	()	79,4
15.		93,1
16.	, , ,	88,0
17.	, ?	87,4
18.	, ,	87,1

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	81,6%

	50%
	50% 65%
	65% 80%
	80% 100%

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		%
1.	(, ; . .) ; ?	88,7
2.	, ?	94,5
3.	?	77,8
4.	, .. ?	89,9
5.	, .. ?	94,5
6.	- ? ,	77,8
7.	, ?	94,5
8.	, ?	82,3
9.	, ,	87,1
10.	?	91,5
11.	- (, , . .)	97,0
12.	?	84,1
13.	- (, .)	87,9
14.	, , ?	94,4
15.		87,7

		%
	(« , », .)?	
16.	?	94,4
17.	?	95,2
18.	,	100,0
19.	/?	85,5
20.	(, ,)	79,6
21.	, ()?	80,5
		88,8%

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	50% 65%
	65% 80%
	80% 100%

1	2	3
1.	<p>(-) , - , - (- , - , -)</p>	<p>1. « . - »: 169 17.12.2021, 14/12/2021 13/12/2022;</p> <p>2011620038 11/01/2011 .;</p> <p>77-42547 03/11/2010 .</p> <p>2. « . - »: 170 17.12.2021, 14/12/2021 13/12/2022;</p> <p>2011620038 11/01/2011 .;</p> <p>77-42547 03/11/2010 .</p> <p>3. « » - elibrary: SU-22-11/2019-1 10.12.2019 , 10.12.2019 10.12.2029; SU-356/2021 16.12.2021 , 16.12.2021 16.12.2022;</p> <p>2010620732 14/12/2010 .;</p> <p>77-42487 27/10/2010 .;</p> <p>4. « « » : http://www.iprbookshop.ru/ - : 9219/22 26.05.2022 ., 02.06.2022 01.06.2023;</p> <p>2021664034 27/08/2021 .;</p>

1	2	3
		<p>2022620333 10/02/2022 .;</p> <p>5. « » https://urait.ru/info/ebs-integration : 35-11/124 16.06.2022 ., 16.06.2022 . 30.07.2023 ;</p> <p>2013620832 15/07/2013 .;</p> <p>77-53549 04/04/2013 .;</p> <p>2013615800 20/06/2013 .;</p> <p>6. - :</p> <p>2012620975 21/09/2012 .;</p> <p>77-52836 08/02/2013 .;</p> <p>7. « » » https://uisrussia.msu.ru/(01-21/47 18/01/2013 -);</p> <p>8. - « » http://www.consultant-urist.ru (6402/176500/ - 13/02/2015 - _____);</p> <p>9. - « » http://www.garant.ru (23.06.2005 -);</p> <p>10. « : », (https://ecology.gpntb.ru/ecologydb/);</p> <p>11. " ", (http://www.zin.ru/BioDiv/bd_dbas.htm);</p> <p>12. . « , - - » (http://ecograde.bio.msu.ru/db/index.html);</p>
2.	- - - - « »()	<p>;</p> <p>;</p> <p>(http://tstu.ru/);</p> <p>VitaLMS (http://vitalms.tstu.ru/login.php)</p> <p>Moodle (https://sdo.tstu.ru/)</p> <p>;</p> <p>,</p> <p>,</p>

1	2	3
		<p>– VitaLOR(http://vitalor.tstu.ru/login/login.php) , () ; () – (http://www.tstu.ru/r.php?r=obuch.book.elibt) , , , . . – (http://webiais.admin.tstu.ru:7777/big/f?p=505:1:0:::::), (http://webiais.admin.tstu.ru:7777/big/f?p=prof_main:LOGIN_DESKTOP:4132303378135), (http://webiais.admin.tstu.ru:7777/zion/f?p=600:LOGIN_DESKTOP:9069017467281) , , ; (, « » 04 2018 . (05 2018 . 4) 94) « - », ; – « - », ; « » - 1368</p>

1	2	3	4
1.	1. .1	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 PROMT Translation Server Intra-net Edition / HKMYTVFUBP-0055 35-03/161 19.08.2008 ; Far Manager / - ; 7-Zip / - ; Kaspersky Endpoint Security - Russian Edition / 1FB6161017094054183141 - _126201-2016 17.10.2016 . 17.10.2016 24.10.2018</p>	, 112
2.	1. .2	:	, 112-

1	2	3	4
		<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 OpenOffice / PROMT Translation Server Intranet Edition / HKMYTVFUBP-0055 35-03/161 19.08.2008 .</p>	
3.	1. .3	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 116
4.	1. .4	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 116
5.	1. .5		, 116

1	2	3	4
		<p>, , - (-) : , . : , , MS Office, Windows / - Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	
6.	1. 6	<p>, , - : , . : , , MS Office, Windows / -</p>	, 116

1	2	3	4
		<p>Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	
7.	1. .7 ,	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ;</p>	, 116

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		<p>-3D 16 -10-00646 -</p> <p>44867/VRN3 19.12.2013 .</p> <p>T-FLEX 0DE36697</p> <p>53- / -2009/35-03/105</p> <p>10.06.2009 .</p> <p>Product Design Suite Ultimate 2016, 2017, 2018. -</p> <p>- : Inventor Professional. Fusion 360 Ultimate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design</p> <p>ReCap, Vault Basic, 3ds Max Design</p> <p>Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk</p> <p>Autodesk</p> <p>#110001053218</p>	
8.	1. 8 , -	<p>,</p> <p>:</p> <p>:</p> <p>1. - 11.</p> <p>2. - 21.</p> <p>3. - 1 611 .</p> <p>4.</p> <p>5.</p> <p>6. 0,001 .</p> <p>7. 1 611 .</p> <p>0,01 - 4</p>	, 116

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		<p>8. 25- 50 .</p> <p>9. 30- 40 -</p> <p>250- 450 .</p> <p>10. 16*25 ,</p> <p>45 -</p> <p>1 .</p> <p>11. .</p> <p>12. 3 71. -</p> <p>MS Office, Windows / -</p> <p>Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p> <p>43239932, 42882586, 46733190, 45936776, 46019880,</p> <p>47425744, 47869741, 60102643, 41875901</p>	
9.	1. .9	<p>, , -</p> <p>(-</p> <p>) -</p> <p>: , , -</p> <p>: , -</p> <p>DMG ECOLINE GmbH CTX 310 ecoline</p> <p>: , -</p> <p>: -</p> <p>MS Office, Windows / -</p> <p>Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p> <p>43239932, 42882586, 46733190, 45936776, 46019880,</p> <p>47425744, 47869741, 60102643, 41875901</p> <p>SolidWorks 2013 749982</p> <p>44867/VRN3 19.12.2013 ;</p> <p>-3D 16 -10-00646 -</p> <p>44867/VRN3 19.12.2013 .</p> <p>T-FLEX 0DE36697</p>	, 116

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		<p>53- / -2009/35-03/105</p> <p>10.06.2009 .</p> <p>Product Design Suite Ultimate 2016, 2017, 2018.</p> <p>-</p> <p>: Inventor Professional. Fusion 360 Ultimate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design</p> <p>ReCap, Vault Basic, 3ds Max Design</p> <p>Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design)</p> <p>Autodesk</p> <p>Autodesk</p> <p>#110001053218</p>	
10.	1. . .1	<p>MS Office, Windows /</p> <p>Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p> <p>43239932, 42882586, 46733190, 45936776, 46019880,</p> <p>47425744, 47869741, 60102643, 41875901</p>	, 116
11.	1. . .2	<p>MS Office, Windows /</p> <p>Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p> <p>43239932, 42882586, 46733190, 45936776, 46019880,</p> <p>47425744, 47869741, 60102643, 41875901</p>	, 116

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12.	1. . .3	<p>DMG ECOLINE GmbH CTX 310 ecoline MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	
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		<p>9. 250- 450 . 30- 70 -</p> <p>10. 16 25 , -</p> <p>45 90 -</p> <p>1 . -</p> <p>11. . -</p> <p>12. . -</p> <p>13. 679. -</p> <p>14. . -</p> <p>15. . -</p> <p>16. ; ; ; -</p> <p>; , -</p> <p>MS Office, Windows / -</p> <p>Microsoft Open License 61010664, -</p> <p>60979359, 61316870, 45560005, 45341392, 44964701, -</p> <p>49066437, 48248804, 49487340, 43925361, 44544975, -</p> <p>43239932, 42882586, 46733190, 45936776, 46019880, -</p> <p>47425744, 47869741, 60102643, 41875901 -</p>	
14.	1. . .5 , -	<p>, , -</p> <p>(-</p> <p>) -</p> <p>: , , -</p> <p>: -</p> <p>1. - 11. -</p> <p>2. - 21. -</p> <p>3. - 1 611 . -</p> <p>4. . -</p> <p>5. 0,001 . -</p>	, . . , 116

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		6. 7. 1 611 . 0,01 - 4 8. 25- 50 . 9. 30- 40 250- 450 . 10. 16*25 , 45 11. 1 . 12. 3 71. 13. 15. 679. 17. MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	
15.	1. . .6	MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	, 116
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		<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	
17.	1. . .8 -		, 116

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		<p style="text-align: center;">:</p> <p style="text-align: center;">-</p> <p style="text-align: center;">«</p> <p style="text-align: center;">»</p> <p>MS Office, Windows /</p> <p style="text-align: center;">Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p> <p>43239932, 42882586, 46733190, 45936776, 46019880,</p> <p>47425744, 47869741, 60102643, 41875901</p> <p>SolidWorks 2013 749982</p> <p>44867/VRN3 19.12.2013 ;</p> <p style="text-align: center;">-3D 16 -10-00646 -</p> <p style="text-align: center;">44867/VRN3 19.12.2013 .</p> <p style="text-align: center;">T-FLEX 0DE36697</p> <p style="text-align: center;">53- / -2009/35-03/105</p> <p>10.06.2009 .</p> <p>Product Design Suite Ultimate 2016, 2017, 2018. -</p> <p style="text-align: center;">: Inventor Professional. Fusion 360 Ul-</p> <p>time, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster</p> <p>Design</p> <p>ReCap, Vault Basic, 3ds Max Design</p> <p>Navisworks Manage. AutoCAD Electrical. Showcase, Alias</p> <p>Design) Autodesk</p> <p style="text-align: center;">Autodesk</p> <p style="text-align: center;">#110001053218</p>	
18.	1. . .1.1	<p style="text-align: center;">:</p> <p style="text-align: center;">-</p> <p style="text-align: center;">«</p> <p style="text-align: center;">»</p> <p>MS Office, Windows /</p> <p style="text-align: center;">Microsoft Open License 61010664,</p> <p>60979359, 61316870, 45560005, 45341392, 44964701,</p> <p>49066437, 48248804, 49487340, 43925361, 44544975,</p>	, 116

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		43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	
19.	1. . .1.2 -	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 116
20.	1. . .2.1	<p>DMG ECOLINE GmbH CTX 310 ecoline MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster</p>	, 116

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		Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218	
21.	1. . .2.2	, - : : , - DMG ECOLINE GmbH CTX 310 ecoline MS Office, Windows / - Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk	, 116

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22.	<p>1. . .2.3</p>	<p>#110001053218</p> <p>DMG ECOLINE GmbH CTX 310 ecoline MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 - 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	<p>, 116</p>
23.	<p>1. . .3.1</p>	<p>- - ,</p>	<p>, 116</p>

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		<p style="text-align: center;">DMG ECOLINE GmbH CTX 310 ecoline</p> <p>MS Office, Windows / - Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX 0DE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - : Inventor Professional. Fusion 360 Ul- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	
24.	1. . .3.2 -	<p style="text-align: center;">DMG ECOLINE GmbH CTX 310 ecoline</p> <p>MS Office, Windows / - Microsoft Open License 61010664,</p>	, 116

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		<p>60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 SolidWorks 2013 749982 44867/VRN3 19.12.2013 ; -3D 16 -10-00646 - 44867/VRN3 19.12.2013 . T-FLEX ODE36697 53- / -2009/35-03/105 10.06.2009 . Product Design Suite Ultimate 2016, 2017, 2018. - : Inventor Professional. Fusion 360 UL- timate, AutoCAD, Au-toCAD Mechanical, AutoCAD Raster Design ReCap, Vault Basic, 3ds Max Design Navisworks Manage. AutoCAD Electrical. Showcase, Alias Design) Autodesk Autodesk #110001053218</p>	
25.	1. . .4.1	<p>MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 116
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27.	2. .1 -	, : : , , MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	, 116
28.	2. .2 ()	, : : , , MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	, 116
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30.	3. .1	- MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	, 116
31.	3. .1	- MS Office, Windows / Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901	, 116
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		<p>Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901 PROMT Translation Server Intra-net Edition / HKMYTVFUBP-0055 35-03/161 19.08.2008 ; Far Manager / - - ; 7-Zip / - - ; Kaspersky Endpoint Security - Russian Edition / 1FB6161017094054183141 - _126201-2016 17.10.2016 . 17.10.2016 24.10.2018</p>	
33.	.2	<p>: , , : MS Office, Windows / - Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 106/5, 2
34.	.3 -	<p>: , , : MS Office, Windows / - Microsoft Open License 61010664, 60979359, 61316870, 45560005, 45341392, 44964701, 49066437, 48248804, 49487340, 43925361, 44544975, 43239932, 42882586, 46733190, 45936776, 46019880, 47425744, 47869741, 60102643, 41875901</p>	, 106/5, 2
35.		()	, 112-

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		<p> : : - « » , - , , (Wi-Fi) MS Office, Windows / Microsoft Open License 66426830 </p>	
36.		<p> (.333/) : : - « » , - , , (Wi-Fi) MS Office, Windows / Microsoft Open License 66426830 </p>	<p> , . , 112- </p>

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1	2	3	4	5	6
1.	SolidWorks 2013	-	100	749982 - 44867/VRN3 19.12.2013 .	- -
2.	SWR_	-	10	2076 - 35-03/76 13.04.2009	
3.	16 -3D -	-	50	-10-00646 44867/VRN3 19.12.2013 .	- -
4.	19 -3D -	-	50	-10-00646 172 07.10.2019 .	- -
5.	2014 - -	-	10	-15-00464 -15-00464 13.11.2015 .	- -
6.	2018.1 - -	-	10	-15-00464 -15-00464 07.10.2019 .	- -
7.	T-FLEX : T-FLEX CAD 3D, T-FLEX - , T-FLEX 3D, T-FLEX NC Tracer 3D, T-FLEX NC Tracer 5D, T- FLEX (- +) ₂ , T-FLEX () , T-FLEX (-) ₂ , T-FLEX (-) ₂ , T-FLEX	-	20	00005221 - 53- / - 2009/35-03/105 10.06.2009 .	- -
8.	SiemensNX	-	11	-	-

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9.	AutoCAD 2020, 2021, 2022	-	3000	Autodesk - Autodesk - #110003718847	2D- 3D-
10.	Auto- CAD_Mechanical 2021, 2022	-	3000	Autodesk - Autodesk - #110003719242	3D- -
11.	Inventor Professional 2020, 2021, 2022	-	3000	Autodesk - Autodesk - #110003719461	3D- -
12.	Autodesk Education Master Suite 2010 - 2012	-	125	- 35-03/75 17.06.2011	- -
13.	AutoCAD 2008- 2011	-	40	110000006741 11580/VRN3/35- 03/120 26.06.2009 .	- -
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15.	ArchiCAD 21	-	- -	1 « » () « » 01.02.2018	() - GRAPHISOFT -
16.	SCAD Office S64max	-	20	14847 -2017-01428 20.12.2017 .	SCAD, - - - -
17.	-	-	20	066557	- -

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	- (STARK ES 2018 R1)			-2017-01428 20.12.2017 .	- , , (, ,) , ,)
18.	EdgeCAM for Educational 2009	-	10	- 10 35-03/298 14.12.2009 .	-
19.	1 : 8.1	-	50	8922549 - 217 08.11.2013 .	
20.	CodeGear RAD Studio 2007 Professional	-	30	32954 - 35-03/161 19.08.2008 .	(Delphi, Delphi.NET ++ Buider)
21.	Mathcad 15	-	30	8A1462152 21 14.12.2010 .	
22.	Maple 14	-	15	744750 - 35-03/175 35-03/175 21.12.2010 ..	
23.	ANSYS Academic Teaching Mechanical	-	5	616773 144 23.08.2019 .	
24.	MATLAB R2013b	-	100	537913 - 43759/VRN3 07.11.2013 .	
25.	- MATLAB Simulink	-	10	537913 - 43759/VRN3 07.11.2013 .	Simulink -
26.	- MATLAB Optimization	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Optimization - -
27.	MATLAB Global Optimization	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Global Optimization - - - -
28.	- MATLAB Statistics	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Statistics -

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29.	MATLAB Neural Network	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Neural Network - - -
30.	MATLAB Control System	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Control System - - -
31.	MATLAB Signal Processing	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Signal Processing - -
32.	MATLAB DSP System	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB DSP System - -
33.	MATLAB Wavelet	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Wavelet - -
34.	MATLAB Image Processing	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Image Processing - -
35.	MATLAB Simulink 3D Animation	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Simulink 3D Animation - - c 3D
36.	MATLAB Database	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Database - - ODBC/JDBC
37.	MATLAB Parallel Computing	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Parallel Computing - -
38.	MATLAB Communications System	-	10	537913 - 43759/VRN3 07.11.2013 .	MATLAB Communications System - - - - - - -
39.	MATLAB Report	-	10	537913 -	MATLAB Report Generator -

1	2	3	4	5	6
	Generator			43759/VRN3 07.11.2013 .	MATLAB, - - MATLAB, - , - : HTML, PDF, RTF, DOC XML
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