

## BMW Group standard data Multipurpose values

Installing flexible lines						
Laying flexible lines		Code	Distance range			Code no.
			1	2	3	
Individual lead, optical fibre	laying approximately, first 80 cm	M-LVAA	50	70	80	200 x
	laying approximately, additional 50 cm	M-LVABX	45			201 0
	laying exactly, per 50 cm or point	M-LVACX	50			202 0
Wiring harness, lines, optical fibre ≤ 30 mm dia.	laying approximately, first 80 cm	M-LVBA	140	165	175	203 x
	laying approximately, additional 50 cm	M-LVBBX	65			204 0
	laying exactly, per 50 cm or point	M-LVBCX	85			205 0
Wiring harness, lines, optical fibre > 30 mm dia.	laying approximately, first 80 cm	M-LVCAX	195	220	230	206 x
	laying approximately, additional 50 cm	M-LVCBX	110			207 0
	laying exactly, per 50 cm or point	M-LVCCX	150			208 0
Attaching flexible lines		Code	Distance range			Code no.
			1	2	3	
Clip/clamp *	pressing in without tool	M-LBAA	35	50	65	209 x
	pressing in with tool at first point	M-LBAB	95	110	125	210 x
	pressing in with tool at additional point	M-LBAC	75	90	105	224 x
Cable strap	closing manually	M-LBCA	130	145	160	213 x
	connecting and closing manually	M-LBCB	155	180	195	214 x
	cutting to length with tool at first point	M-LBCC	105	125	140	215 x
	cutting to length with tool at additional point	M-LBCD	85	95	100	225 x
Ladder Strap	closing manually	M-LBDA	60	75	90	216 x
	cutting to length with tool at first point	M-LBDB	95	115	130	217 x
	cutting to length with tool at additional point	M-LBDC	75	85	90	226 x
Strap with button fastener	closing manually	M-LBEO	135	160	175	227 x
	closing with tool at first point	M-LBEE	145	170	185	228 x
	closing with tool at additional point	M-LBEZ	125	150	165	229 x
Connecting flexible lines		Code	Distance range			Code no.
			1	2	3	
Connector/relay	≤ 50 terminals including a connector engagement check	M-LABA	60	80	95	219 x
	> 50 terminals including a connector engagement check	M-LABB	80	95	110	220 x
Additionally for	Restriction of one side	M-LABCX	40			221 0
	Restriction of more than one side	M-LABDX	90			222 0
	locking or unlocking	M-LABFX	30			235 0

\* Clip or clamp already pre-installed / LWL = optical fibre

Screwing operations									
Handling the screw part			Code	Distance range			Code no.		
				1	2	3			
Picking up and positioning the screw part <b>with screwing in (two rotations)</b>	Screw part without or with fixed washer	one part	M-SAKE	60	85	100	140	x	
		two parts	M-SAKZ	100	125	140	141	x	
	Screw part and washer		M-SAUX	100	125	140	142	x	
Screw part and washer and additional washer or similar part		M-SAZX	130	180	210	143	x		
Picking up and positioning the screw part <b>without screwing in</b>	Screw part without or with fixed washer	one part	M-SBKE	35	60	75	144	x	
		two parts	M-SBKZ	60	85	100	145	x	
	Screw part and washer		M-SBUX	75	100	115	146	x	
	Screw part and washer and additional washer or similar part		M-SBZX	105	155	185	147	x	
Handful	Handful of screw parts, including discarding the rest		B-AGHR	50	74	93	16	x	
	Load one part from the handful <b>with screwing in (two rotations)</b>		M-SPKE	50	60	65	148	x	
	Load one part from the handful <b>without screwing in</b>		B-PBE	20	29	33	27	x	
<b>E = one part / Z = two parts</b>									
Handling the screw/nut assembly tool			Code	Distance range			Code no.		
				1	2	3			
Picking up, positioning, putting down the screw/nut assembly tool	directly at the connection point	first point	M-SFBE	50	70	85	154	x	
		additional point	M-SFBZ	30	40	45	155	x	
	to be fitted in the working area, attached to the connection point	first point	M-SFCE	55	85	110	156	x	
		additional point	M-SFCZ	40	60	70	157	x	
Picking up, positioning, putting down the combination screwdriver		first point	M-SFAE	80	100	115	152	x	
		additional point	M-SFAZ	60	70	75	153	x	
Tightening to torque	Measuring range: 0 - ≤ 30 Nm	first point	M-SDAE	80	100	115	158	x	
		additional point	M-SDAZ	60	70	75	159	x	
	Measuring range: > 30 - ≤ 500 Nm	first point	M-SDBE	90	110	125	160	x	
		additional point	M-SDBZ	70	80	85	161	x	
Replacing the screwdriver insert		M-SWWX	90	120	150	162	x		
<b>E = first point / Z = additional point</b>									
Screw in the screw part per mm				Code	≤ M10	> M10 ≤ M20	Tap screw	Code no.	
Screw in DIN screws, nuts or self-tapping screws by 1 mm	Using one hand or both hands			M-SEHX	15	10		170	x
	Socket wrench/screwdriver			M-SESX	20		15	171	x
	Spiral screwdriver			M-SEDX	10		5	172	x
	Ratchet			M-SERX	25	20		173	x
	Open-end spanner			M-SEGX	80	60		174	x

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	Time unit		
	TMU	Min.	Sec.
	1	0.0006	0.036

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Clips and sealing elements				Code	Distance range			Code no.
					1	2	3	
Fusible plugs, stoppers, clips, cardboard tubes, small plastic moulded parts	without tool	single		M-CEHA	45	70	85	130 x
		handful	first	M-CEBE	95	130	150	131 x
			additional	M-CEBZX	45			132 0
	with tool	single	first	M-CECE	80	115	140	133 x
			additional	M-CECZ	70	95	110	134 x
		handful	first	M-CEDE	120	155	180	135 x
			additional	M-CEDZX	70			136 0
	Fit and screw in part manually, e.g. trim panel parts, anti-trapping strips				M-CBHX	20	30	35
Grommet > 20 - ≤ 60 mm dia.	without tool			M-DBAX	140	165	180	232 x
	with tool	first		M-DBBE	190	215	230	233 x
		additional		M-DBBZ	170	195	210	234 x

Fitting standard parts				Code	Distance range			Code no.	
					1	2	3		
Snapping	with tool	first		M-NCEE	90	110	125	280 x	
		additional		M-NCEZ	80	105	120	281 x	
O-ring	without tool			M-NFOX	70	95	110	282 x	
	with tool	first		M-NFEE	70	90	105	283 x	
		additional		M-NFEZ	50	85	105	284 x	
Pop rivet	with tool incl. process time			first	M-NHEE	130	150	165	285 x
				additional	M-NHEZ	110	135	150	286 x
Equipping the hose with a clamp and connecting it	dipping without or with lubricant			easy	M-NMLX	80	105	120	290 x
				moderate	M-NMMX	110	135	150	291 x
				difficult	M-NMSX	140	165	180	292 x

Marking and documenting				Code	Distance range			Code no.	
					1	2	3		
Hand-guided writing implement	per character, digit, letter	first activity		M-MSZE	60	80	95	120 x	
		further activity		M-MSZWX	20			121 0	
		additional point		M-MSZZ	40	50	55	122 x	
Rubber stamp	approx. > 12 mm	first activity		M-MGUE	30	55	80	123 x	
		additional point		M-MGUZ	15	30	40	124 x	
	exactly ≤ 12 mm	first activity		M-MGGE	45	70	90	125 x	
		additional point		M-MGGZ	25	40	50	126 x	
Scanning	loose 3 mm ≤ 12 mm			first activity	M-MCGE	85	105	120	127 x
				additional point	M-MCGZ	65	75	80	128 x

Body motions - bodyshell			Code	TMU	Code no.
Entering and exiting	Interior	straightening up through the sunroof/windscreen opening	MA-KEJA	300	500 0
		sitting, crouching, kneeling	MA-KEJS	245	501 0
		sitting on the seat	MA-KEJH	210	502 0
Sitting and standing	Access	sitting – normally, bent over, one leg in the interior	MA-KSES	140	503 0
		lying	MA-KSEL	295	504 0
Changing location	Interior	without cushion	MA-KWJO	130	505 0
		with cushion	MA-KWJM	175	506 0
Handling the tool and small parts container			MA-KGWX	55	515 0

Bonnet, tailgate and doors			Code	TMU	Code no.
Opening	Doors	without unlocking	B-AHE3	54	17 3
		with unlocking	M-KTXOX	70	507 0
	Bonnet	without unlocking	M-KFOOX	100	508 0
		with unlocking	M-KFEOX	275	509 0
	Tailgate	with shock absorber	M-KHGOX	65	510 0
		without shock absorber	M-KHKOX	140	520 0
Close	Doors/bonnet/tailgate		M-KTKSX	50	511 0
	Doors/bonnet/tailgate including securing them		M-KTSSX	80	519 0

Motorcycle handling			Code	TMU	Code no.
Sitting on the motorcycle and dismounting again			M-MHAXX	305	550 0
Pushing	Start and stop – parking		M-MHSEX	185	551 0
	Start and stop – stopping		M-MHSSX	40	552 0
	per metre		L-TFMXD	35	760 0
	Bend ≥ 90°		L-TFKXD	15	764 0

Body protection			Code	TMU	Code no.
Eye protection/head protection	using		M-KAXAX	50	530 0
	removing		M-KAXEX	40	531 0
Hearing protection	Acoustic earmuffs	using	M-KGKAX	45	532 0
		removing	M-KGKEX	35	533 0
	Earplugs	using	M-KGSAX	170	534 0
		removing	M-KGSEX	55	535 0
Protective gloves for each hand			M-KHXAX	135	536 0
			M-KHXEX	50	537 0
Face mask	using		M-KMXAX	75	538 0
	removing		M-KMXEX	55	539 0

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Cleaning		Code	Distance range			Code no.	
			1	2	3		
Compressed air, brush, cloth, etc.	Area ≤ 400 cm <sup>2</sup> , groove < 40 cm, bore hole, recess	first	65	85	105	250 x	
		further	40			251 0	
		additional	50	60	65	252 x	
	Area > 400 cm <sup>2</sup> to < 2500 cm <sup>2</sup>	first	M-RDBE	155	175	195	253 x
		further	M-RDBWX	130			254 0
		additional	M-RDBZ	140	150	155	255 x
	Area > 0.25 m <sup>2</sup> to < 0.5 m <sup>2</sup>	first	M-RDCE	205	225	245	256 x
		further	M-RDCWX	180			257 0
		additional	M-RDCZ	190	200	205	258 x
	Area > 0.5 m <sup>2</sup> to < 1.0 m <sup>2</sup>	first	M-RDDE	320	340	360	259 x
		further	M-RDDWX	295			260 0
		additional	M-RDDZ	305	315	320	261 x

Checking					
Checking contour and seam			Code	TMU	Code no.
Checking a point every 10 cm	single seam	1 angle of view	M-PPSEE	15	401 0
	overlap	2 angles of view	M-PPSKZ	30	402 0
Checking the area			Code	TMU	Code no.
Surfaces	per test criterion		B-VK	15	43 0
	Viewing distance 40 cm	Area 100 cm <sup>2</sup> (10 cm x 10 cm)	M-POFAA	15	403 0
	Viewing distance 60 cm	Area 225 cm <sup>2</sup> (15 cm x 15 cm)	M-POFAB	15	404 0
	Viewing distance 80 cm	Area 400 cm <sup>2</sup> (20 cm x 20 cm)	M-POFAC	15	405 0
	Area per m <sup>2</sup>		M-POFXD	405	406 0

Fault processing – surface		Code	Distance range			Code no.
			1	2	3	
Planing	first point	S-HEEE	60	80	95	51 x
	additional point	S-HEEZ	40	50	55	52 x
Handling the grinding/polishing device	first point	S-HELE	50	70	85	49 x
	additional point	S-HELZ	30	40	45	50 x
Applying abrasive/polishing agent	first point	S-HEUE	35	55	75	47 x
	additional point	S-HEUZ	20	30	35	48 x
Cleaning/final wiping of processing point	first point	S-HEUE	35	55	75	47 x
	additional point	S-HEUZ	20	30	35	48 x
	further	B-ZB	10	30	40	33 x
Checking per processing point		B-VK	15			43 0

Processing the PVC seam and applying medium				Code	Distance range			Code no.	
					1	2	3		
Spreading modelling, applying	Point, line up to 20 cm	approaching > 3 mm	first	M-AAAME	50	70	85	270 x	
			add.	with coat	M-AAAMZ	50	60	65	271 x
			without coat	M-AAAOZ	20	30	35	272 x	
		tight ≤ 3 mm	first	M-AAEME	75	95	110	263 x	
			add.	with coat	M-AAEMZ	70	80	85	264 x
			without coat	M-AAEOZ	35	45	50	265 x	
		further	M-AAXOWX	10			273 0		
	Area ≤ 400 cm <sup>2</sup>	approaching > 3 mm	first	M-AFAME	80	100	115	274 x	
			add.	with coat	M-AFAMZ	70	80	85	275 x
			without coat	M-AFAOZ	40	50	55	276 x	
		tight ≤ 3 mm	first	M-AFEME	110	130	145	267 x	
			add.	with coat	M-AFEMZ	95	105	110	268 x
without coat			M-AFEOZ	55	65	70	269 x		
	further	M-AFXOWX	25			277 0			

Cavity waxing			Code	Distance range			Code no.
				1	2	3	
Using a cavity waxing gun	Gun picked up in the working area for the first time		S-HEUE	35	55	75	47 x
	Nozzle change/positioning including preparation		M-HHDX	130	140	145	597 x
	Employees involved in the process		S-PTG	1			90 0

Adhesive parts and masking				Code	Distance range			Code no.
					1	2	3	
Adhesive part	≤ 5 x 5 cm	approx. > 12 mm	first	M-KADE	60	85	105	96 x
			additional	M-KADZ	25	40	55	97 x
		exactly ≤ 12 mm	first	M-KBDE	75	115	145	98 x
		additional	M-KBDZ	40	55	70	99 x	
	≤ 10 x 10 cm	approx. > 12 mm	without aids	M-KAAO	70	100	120	100 x
			with aids	M-KAAM	110	160	200	101 x
		exactly ≤ 12 mm	without aids	M-KBAO	85	115	140	102 x
			with aids	M-KBAM	120	170	205	103 x
	≤ 20 x 20 cm	approx. > 12 mm	without aids	M-KABO	85	115	140	104 x
			with aids	M-KABM	115	170	210	105 x
		exactly ≤ 12 mm	without aids	M-KBBO	115	140	160	106 x
			with aids	M-KBBM	150	195	230	107 x
	≤ 50 x 50 cm	approx. > 12 mm	without aids	M-KACO	170	205	230	108 x
			with aids	M-KACM	200	250	295	109 x
		exactly ≤ 12 mm	without aids	M-KBCO	270	300	370	110 x
			with aids	M-KBCM	305	355	440	111 x
Attaching adhesive tape	≤ 20 cm		individual or from a roll	M-KCAX	100	130	160	112 x
	≤ 50 cm			M-KCBX	130	160	185	113 x
	for each additional 20 cm			M-KCCXX	45			114 0

Removing adhesive parts and demasking				Code	Distance range			Code no.
					1	2	3	
Removing adhesive tape	≤ 20 cm			M-DKAX	60	85	100	590 x
	for each additional 20 cm			M-DKBXX	20			591 0
Removing seals/adhesive parts	with tool at first point			M-DDME	85	105	120	592 x
	with tool at additional point			M-DDMZ	65	75	80	593 x

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Provision of attachment parts		Code	Distance range ≤ 80 cm	Code no.
Container fill level	≤ 10 parts/container	M-BAA	35	<b>330</b> 0
	11 ≤ 20 parts/container	M-BAB	25	<b>331</b> 0
	Please note: The data applies to a range of 5 m	Code	Distance range ≤ 5 m	Code no.
	21 ≤ 100 parts/container	M-BAC	10	<b>332</b> 0
	>100 parts/container	M-BAD	1	<b>333</b> 0

Preparatory activities		Code	Distance range ≤ 80 cm	Code no.	
Removing the slip cardboard lid	≤ 30 x 30 x 30 cm	M-VAAXX	65	<b>300</b> 0	
	≤ 80 x 80 x 80 cm	M-VABXX	105	<b>301</b> 0	
Opening the folding cardboard box	≤ 30 x 30 x 30 cm	M-VBAXX	540	<b>302</b> 0	
	≤ 80 x 80 x 80 cm	M-VBBXX	600	<b>303</b> 0	
Opening/closing the wire mesh container	≤ 120 x 100 x 90 cm	M-VCCXX	110	<b>304</b> 0	
Opening the bag	with tool	M-VDHXX	185	<b>305</b> 0	
	without tool	M-VDIXX	115	<b>306</b> 0	
Placing KLT container onto/removing it from the flow rack	full	L-RDBXV	103	<b>846</b> 0	
	empty	L-RDBXL	53	<b>847</b> 0	
Removing/inserting flexible intermediate plates	≤ 30 x 30 cm	M-VFDXX	85	<b>309</b> 0	
	≤ 120 x 100 cm	M-VFEXX	105	<b>310</b> 0	
Removing/inserting rigid intermediate plates	≤ 30 x 30 cm	M-VGDXX	60	<b>311</b> 0	
	≤ 120 x 100 cm	M-VGEXX	75	<b>312</b> 0	
Folding the folding box open/closed	approx. 60 x 40 x 30 cm	M-VHKXX	185	<b>313</b> 0	
Dimple tape	opening and discarding	without tool	M-VIIXX	115	<b>314</b> 0
	close	without tool	M-VKIXX	85	<b>316</b> 0
PVC/steel belt, removing wire	a cutting point	M-VJJXX	265	<b>315</b> 0	

Manual pallet jack		Code	TMU	Code no.	
Driving	Start and stop	≤ 500 kg	L-HFXSA	80	<b>770</b> 0
		> 500 kg	L-HFXSB	150	<b>771</b> 0
	per metre	≤ 500 kg	L-HFXMA	30	<b>772</b> 0
		> 500 kg	L-HFXMB	35	<b>773</b> 0
	Bend ≥ 90°	≤ 500 kg	L-HFXKA	15	<b>774</b> 0
		> 500 kg	L-HFXKB	19	<b>775</b> 0
Transported goods	Picking up	≤ 500 kg	L-HTAOA	345	<b>776</b> 0
		> 500 kg	L-HTAOB	415	<b>777</b> 0
	Positioning	≤ 500 kg	L-HTPOA	115	<b>780</b> 0
		> 500 kg	L-HTPOB	125	<b>781</b> 0
	additional alignment	≤ 500 kg	L-HAXXA	115	<b>784</b> 0
		> 500 kg	L-HAXXB	180	<b>785</b> 0

Transportwagen / Transport trolley		Code	TMU	Code no.	
Fahren / Driving	Start und Stopp / Start and stop	≤ 25 N	B-TFSA	36	<b>851</b> 0
		> 25 N ≤ 150 N	B-TFSB	59	<b>852</b> 0
		> 150 N ≤ 230 N	B-TFSC	74	<b>853</b> 0
		> 230 N ≤ 280 N	B-TFSD	79	<b>854</b> 0
		> 280 N ≤ 335 N	B-TFSE	95	<b>855</b> 0
		> 335 N ≤ 415 N	B-TFSF	112	<b>856</b> 0
	pro Meter / per Meter	> 415 N ≤ 495 N	B-TFSG	136	<b>857</b> 0
		≤ 25 N	B-TFMA	18	<b>861</b> 0
		> 25 N ≤ 150 N	B-TFMB	20	<b>862</b> 0
		> 150 N ≤ 230 N	B-TFMC	25	<b>863</b> 0
		> 230 N ≤ 280 N	B-TFMD	29	<b>864</b> 0
		> 280 N ≤ 335 N	B-TFME	35	<b>865</b> 0
	Kurve ≥ 90° / Bend ≥ 90°	> 335 N ≤ 415 N	B-TFMF	45	<b>866</b> 0
		> 415 N ≤ 495 N	B-TFMG	55	<b>867</b> 0
		≤ 25 N	B-TFKA	11	<b>871</b> 0
		> 25 N ≤ 150 N	B-TFKB	12	<b>872</b> 0
		> 150 N ≤ 230 N	B-TFKC	15	<b>873</b> 0
		> 230 N ≤ 280 N	B-TFKD	17	<b>874</b> 0
	zusätzliches Ausrichten / additional alignment	> 280 N ≤ 335 N	B-TFKE	21	<b>875</b> 0
		> 335 N ≤ 415 N	B-TFKF	27	<b>876</b> 0
		> 415 N ≤ 495 N	B-TFKG	33	<b>877</b> 0
		≤ 25 N	B-TFAA	83	<b>881</b> 0
		> 25 N ≤ 150 N	B-TFAB	118	<b>882</b> 0
		> 150 N ≤ 230 N	B-TFAC	141	<b>883</b> 0
	> 230 N ≤ 280 N	B-TFAD	153	<b>884</b> 0	
	> 280 N ≤ 335 N	B-TFAE	185	<b>885</b> 0	
	> 335 N ≤ 415 N	B-TFAF	222	<b>886</b> 0	
	> 415 N ≤ 495 N	B-TFAG	270	<b>887</b> 0	

Automated pallet jack		Code	TMU	Code no.	
Driving	Start and stop - parking	L-GFDXX	135	<b>620</b> 0	
	Start and stop - stopping	L-GFSXX	70	<b>622</b> 0	
	per metre	L-GFMXX	25	<b>660</b> 0	
	Bend ≥ 90°	L-GFKXX	27	<b>661</b> 0	
Picking up and positioning the load	Basic value	Ground - ground	L-GLBBX	550	<b>662</b> 0
	Transport height per 10 cm	Picking up	L-GLTAX	26	<b>663</b> 0
		Positioning	L-GLTPX	32	<b>664</b> 0
	additional alignment	L-GLAXX	105	<b>665</b> 0	