

Section 1. PRODUCT DESCRIPTION

EXPANSION PLUG WITH HEX HEAD SCREW – KKK

Expansion plug KKK comprises sleeve made of polypropylene and hex head steel screw with protective zinc coating. It is designed for fixing of light-duty interior finish systems, metal members and lightweight installations or mounting clamps on solid substrates. The plug is held firmly in place as the expansion lugs on its outside prevent it from turning once it is placed in the hole. On the inner side sleeves have guide lugs on the entire length to ensure guiding of a screw when being installed.

Types of substrates on which expansion plug KKK can be installed:

- Concrete
- Solid clay brick
- Solid sand-lime brick



PP
polipropylen



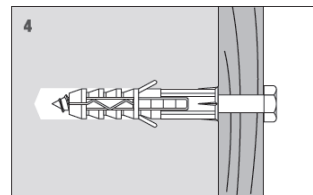
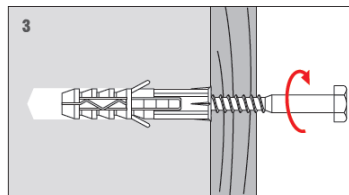
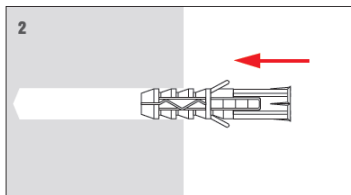
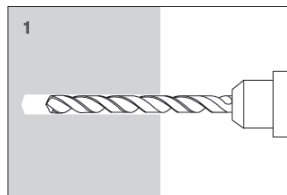
Elementy
klinujące



Expansion plugs hold National Technical Assessment: ITB-KOT-2018/0528 Rev. I

Section 2. METHOD OF INSTALLATION

1. Original expansion plugs delivered by the manufacturer can be used only
2. Before installation identify a substrate in which the plug will be installed and compare loads which the plug will carry to resistance values given in Product Data Sheet or National Technical Assessment
3. Select an adequate length of the plug so that expansion zone is in the construction material of the wall (thickness of member being fixed matches max. usable length of the plug – t_{fix})
4. Use proper method of drilling according to a substrate type (holes in masonry substrate made of autoclaved aerated concrete blocks should be drilled using a drill without impact)
5. Diameter of drilled holes should match diameter of the plugs used
6. Drilled holes in substrates of solid materials should be deeper by min. 10mm compared to the plug anchorage depth
7. Clean the holes in solid materials of drillings with a back and forth motion of the drill at a reduced speed
8. Then insert the plug into a drilled hole, and drive the screw through the element being fixed until it completely penetrates the sleeve (pre-fastening installation)



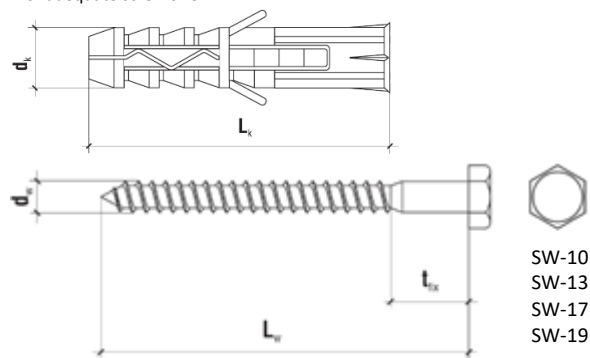
Section 3. TECHNICAL DATA

Substrate type	RESISTANCE				
	Design pull-out resistance [kN]				
	KKX-10/60	KKX-12/60	KKX-12/80	KKX-14/80	KKX-16/100
Concrete C20/25	0,11	0,17	0,33	0,33	0,67
Solid clay brick	0,16	0,30	0,24	0,48	1,00
Solid sand-lime brick	0,16	0,36	0,48	1,00	1,80

PRODUCT DATA SHEET – KKK

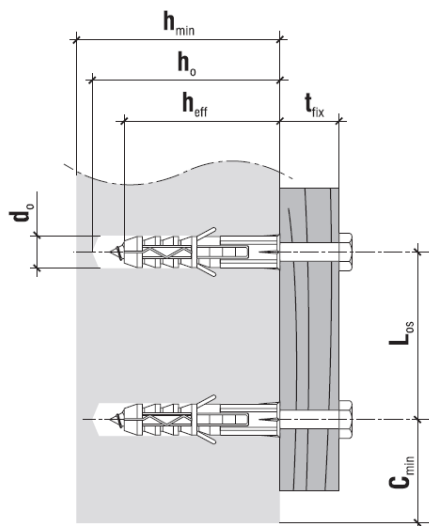
TECHNICAL PARAMETERS		
Parameter	Unit	Value
Plug diameter	d_k [mm]	10/12/14/16
Drilled hole diameter	d_o [mm]	10/12/14/16
Anchorage depth	h_{eff} [mm]	60/80/100*
Drilled hole depth	h_o [mm]	70/90/110*
Drive type	[-]	SW 10/13/17/19*
Sleeve material	[-]	PP – polypropylene
Screw material	[-]	Zinc-plated steel
National Technical Assessment	[-]	KOT-2018/0528

*for adequate screw size



INSTALLATION PARAMETERS			
Plug type	Min. substrate thickness	Min. distance from edge	Min. axial distance
	h_{min} [mm]	c_{min} [mm]	L_{os} [mm]
KKX-10/60, KKK-12/60	90	120	120/180*
KKX-12/80, KKK-14/80	120	160	160/240*
KKX-16/100	150	200	200/300*

*for concrete substrate/other substrates



SELECTION TABLE					
Product code	Sleeve diameter and length	Screw diameter and length	Max. usable length	Drive type	Number of pieces in a box
	$d_k \times L_k$ [mm]	$d_w \times L_w$ [mm]	t_{fix} [mm]	[-]	[pcs]
KKX-10060	10x60	6,0x60	1	SW-10	100
KKX-10070	10x60	6,0x70	10	SW-10	100
KKX-10080	10x60	6,0x80	20	SW-10	100
KKX-10090	10x60	6,0x90	30	SW-10	100
KKX-10100	10x60	6,0x100	40	SW-10	100
KKX-10120	10x60	6,0x120	60	SW-10	100
KKX-10140	10x60	6,0x140	80	SW-10	100
KKX-12060	12x60	8,0x60	1	SW-13	100
KKX-12070	12x60	8,0x70	10	SW-13	100
KKX-12080	12x60	8,0x80	20	SW-13	100
KKX-12090	12x60	8,0x90	30	SW-13	100
KKX-12100	12x80	8,0x100	20	SW-13	50
KKX-12120	12x80	8,0x120	40	SW-13	50
KKX-12140	12x80	8,0x140	60	SW-13	50
KKX-12160	12x80	8,0x160	80	SW-13	50
KKX-12180	12x80	8,0x180	100	SW-13	50
KKX-12200	12x80	8,0x200	120	SW-13	50
KKX-14080	14x80	10x80	1	SW-17	50
KKX-14100	14x80	10x100	20	SW-17	50
KKX-14120	14x80	10x120	40	SW-17	50
KKX-14140	14x80	10x140	60	SW-17	50
KKX-14160	14x80	10x160	80	SW-17	25
KKX-14180	14x80	10x180	100	SW-17	25
KKX-14200	14x80	10x200	120	SW-17	25
KKX-16120	16x100	12x120	20	SW-19	25
KKX-16140	16x100	12x140	40	SW-19	25
KKX-16160	16x100	12x160	60	SW-19	25
KKX-16180	16x100	12x180	80	SW-19	20
KKX-16200	16x100	12x200	100	SW-19	20
KKX-16220	16x100	12x220	120	SW-19	20
KKX-16240	16x100	12x240	140	SW-19	20
KKX-16260	16x100	12x260	160	SW-19	20

PRODUCT DATA SHEET – KKK

Section 4. REMARKS

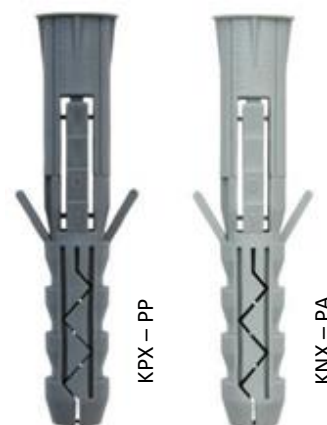
1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.

PRODUCT DATA SHEET – KPX/KNX

Section 1. PRODUCT DESCRIPTION

EXPANSION PLUG PLASTIC SLEEVE – KPX/KNX

Expansion plug plastic sleeve KPX is made of polypropylene, and KNX is made of polyamide. It is used for fixing of members in substrates made of solid materials. The sleeve is held firmly in place as the expansion lugs on its outside prevent it from turning once it is placed in the hole. On the inner side sleeves have guide lugs on the entire length to ensure guiding of a screw when being installed.

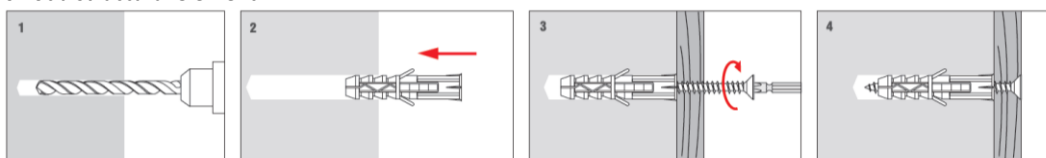


Types of substrates on which plastic sleeve KPX/KNX can be installed:

- Concrete
- Solid clay brick
- Solid sand-lime brick

Section 2. METHOD OF INSTALLATION

1. Original sleeves delivered by the manufacturer can be used only
2. Before fastening identify the substrate on which sleeve will be installed
3. Select adequate length of the sleeve so that expansion zone is in the construction material of the wall
4. Use proper method of drilling according to a substrate type
5. Diameter of drilled holes should match diameter of the sleeves used
6. Drilled holes in substrates of solid materials should be deeper by min. 10mm compared to the sleeve anchorage depth
7. Clean the holes in solid materials of drillings with a back and forth motion of the drill at a reduced speed
8. Then insert the sleeve into a drilled hole, and drive the matched screw through the element being fixed until it completely penetrates the sleeve (pre-fastening installation)
9. The sleeve is not a structural element



Section 3. TECHNICAL DATA

SELECTION TABLE						
Product code		Sleeve diameter and length	Recommended screw diameter	Min. anchorage depth	Min. depth of drilled hole	Number of pieces in a box
KPX	KNX	$d_k \times L_k$ [mm]	d_w [mm]	h_{eff} [mm]	h_0 [mm]	[pcs]
KPX-06030	KNX-06030	6x30	3,5-4	30	40	1000
KPX-08040	KNX-08040	8x40	4-6	40	50	500
KPX-08050	KNX-08050	8x50	4-6	50	60	400
KPX-10050	KNX-10050	10x50	5-7	50	60	300
KPX-10060	KNX-10060	10x60	5-7	60	70	200
KPX-12060	KNX-12060	12x60	6-8	60	70	150
KPX-12080	KNX-12080	12x80	6-8	80	90	100
KPX-14080	KNX-14080	14x80	10	80	90	100
KPX-16100	KNX-16100	16x100	12	100	110	50

Section 4. REMARKS

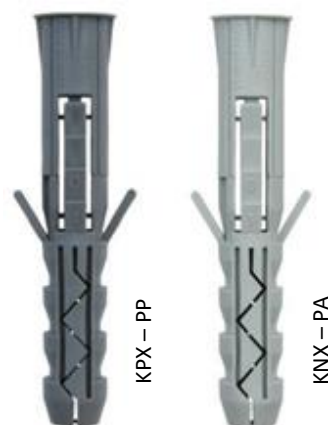
1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.

PRODUCT DATA SHEET – KPX/KNX

Section 1. PRODUCT DESCRIPTION

EXPANSION PLUG PLASTIC SLEEVE – KPX/KNX

Expansion plug plastic sleeve KPX is made of polypropylene, and KNX is made of polyamide. It is used for fixing of members in substrates made of solid materials. The sleeve is held firmly in place as the expansion lugs on its outside prevent it from turning once it is placed in the hole. On the inner side sleeves have guide lugs on the entire length to ensure guiding of a screw when being installed.

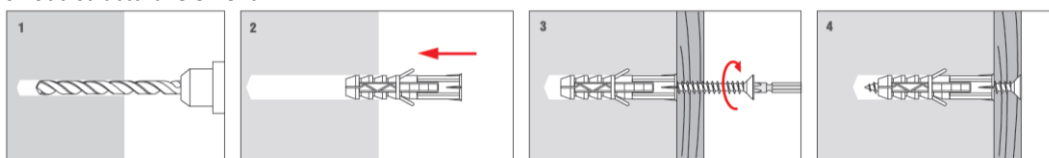


Types of substrates on which plastic sleeve KPX/KNX can be installed:

- Concrete
- Solid clay brick
- Solid sand-lime brick

Section 2. METHOD OF INSTALLATION

1. Original sleeves delivered by the manufacturer can be used only
2. Before fastening identify the substrate on which sleeve will be installed
3. Select adequate length of the sleeve so that expansion zone is in the construction material of the wall
4. Use proper method of drilling according to a substrate type
5. Diameter of drilled holes should match diameter of the sleeves used
6. Drilled holes in substrates of solid materials should be deeper by min. 10mm compared to the sleeve anchorage depth
7. Clean the holes in solid materials of drillings with a back and forth motion of the drill at a reduced speed
8. Then insert the sleeve into a drilled hole, and drive the matched screw through the element being fixed until it completely penetrates the sleeve (pre-fastening installation)
9. The sleeve is not a structural element



Section 3. TECHNICAL DATA

SELECTION TABLE						
Product code		Sleeve diameter and length	Recommended screw diameter	Min. anchorage depth	Min. depth of drilled hole	Number of pieces in a box
KPX	KNX	$d_k \times L_k$ [mm]	d_w [mm]	h_{eff} [mm]	h_0 [mm]	[pcs]
KPX-06030	KNX-06030	6x30	3,5-4	30	40	1000
KPX-08040	KNX-08040	8x40	4-6	40	50	500
KPX-08050	KNX-08050	8x50	4-6	50	60	400
KPX-10050	KNX-10050	10x50	5-7	50	60	300
KPX-10060	KNX-10060	10x60	5-7	60	70	200
KPX-12060	KNX-12060	12x60	6-8	60	70	150
KPX-12080	KNX-12080	12x80	6-8	80	90	100
KPX-14080	KNX-14080	14x80	10	80	90	100
KPX-16100	KNX-16100	16x100	12	100	110	50

Section 4. REMARKS

1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.

Section 1. PRODUCT DESCRIPTION

HAMMER-IN DRIVE EXPANDING METAL ANCHOR – KRW

Hammer-in drive expanding metal anchor KRW comprises a body terminated with a flat stop face at one end, and a taper at the other and a hammer-in countersunk nail. The anchor is made of zinc-plated steel. It is designed for fixing of thin metal members, flashings, or suspended ceiling systems. It can be installed in cracked concrete for suspended ceiling fixings in reinforced concrete. Fixing is executed by driving in the nail into the body which causes key to move and creates a permanent anchorage.



Types of substrates on which anchor KRW can be installed:

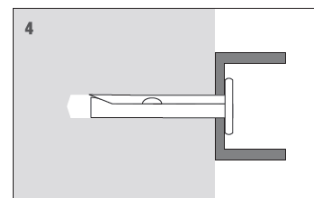
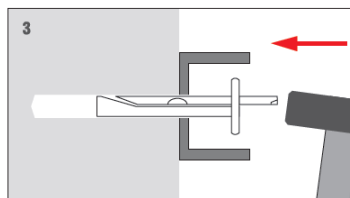
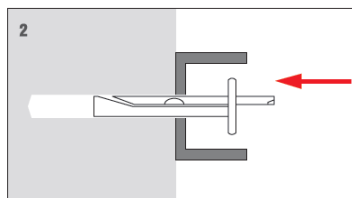
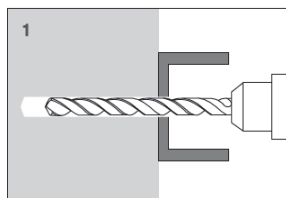
- cracked and non-cracked concrete
- Solid clay brick



Anchor hold National Technical Assessment: ITB-KOT-2018/0463 Rev. 1

Section 2. METHOD OF INSTALLATION

1. Original anchors delivered by the manufacturer can be used only
2. Before installation identify a substrate in which the anchor will be installed and compare loads which the anchor will carry to resistance values given in Product Data Sheet or National Technical Assessment
3. Select an adequate length of the anchor so that expansion zone is in the construction material of the wall (thickness of member being fixed matches max. usable length of the anchor – t_{fix})
4. Diameter of drilled holes should match diameter of the anchors used
5. Drilled holes in substrates of solid materials should be deeper by min. 10 mm compared to the anchorage depth
6. Clean the holes in solid materials of drillings with a back and forth motion of the drill at a reduced speed
7. Then insert the anchor into a drilled hole, and drive the nail until it completely penetrates the body



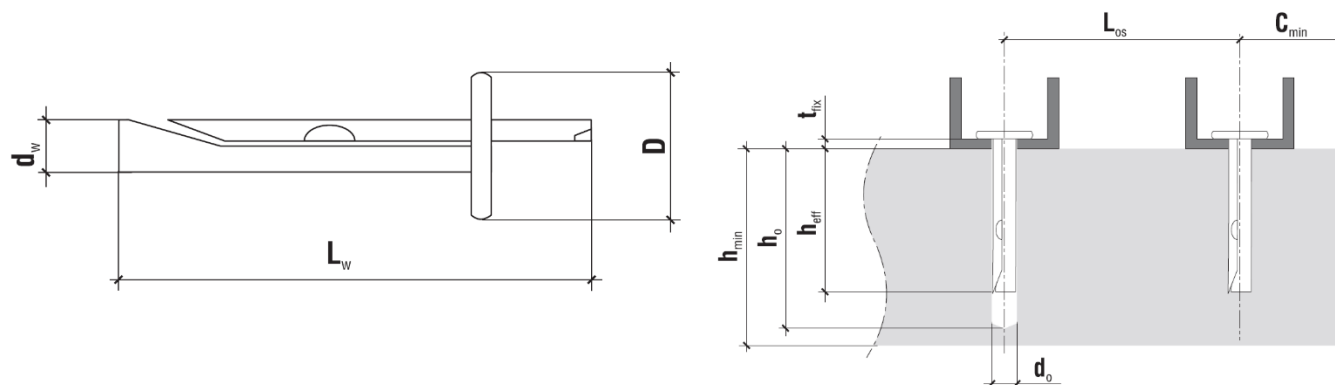
PRODUCT DATA SHEET – KRW

Section 3. TECHNICAL DATA

TECHNICAL PARAMETERS		
Parameter	Unit	Value
Anchor diameter	d_k [mm]	6
Hole/drill diameter	d_o [mm]	6
Effective anchorage depth	h_{eff} [mm]	30
Drilled hole depth	h_o [mm]	40
Anchor material	[-]	Zinc-plated steel
National Technical Assessment	[-]	ITB-KOT-2018/0463 Rev. 1

RESISTANCE	
Substrate type	Design resistance [kN]
Concrete C20/25 ÷ C50/60	2,38
Solid clay brick	1,00

INSTALLATION PARAMETERS			
Substrate type	Min. substrate thickness	Min. distance from edge	Min. axial distance
	h_{min} [mm]	c_{min} [mm]	L_{os} [mm]
Concrete C20/25 ÷ C50/60	80	150	250
Solid clay brick	80	150	250



SELECTION TABLE				
Product code	Anchor diameter and length	Max. usable length	Collar diameter	Number of pieces in a box
	$d_w \times L_w$ [mm]	t_{fix} [mm]	D [mm]	[pcs]
KRW-06035	6x35	5	15	100
KRW-06065	6x65	30	15	100

Section 4. REMARKS

1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.

PRODUCT DATA SHEET – KRX

Section 1. PRODUCT DESCRIPTION

EXPANSION PLUG WITH COUNTERSUNK HEAD SCREW – KRX

Expansion plug KRX comprises sleeve made of polypropylene and countersunk head steel screw with protective zinc coating. It is designed for fixing of light-duty interior finish systems, wood members and lightweight installations or mounting clamps on solid substrates. The plug is held firmly in place as the expansion lugs on its outside prevent it from turning once it is placed in the hole. On the inner side sleeves have guide lugs on the entire length to ensure guiding of a screw when being installed.

Types of substrates on which expansion plug KRX can be installed:

- Concrete
- Solid clay brick
- Solid sand-lime brick



PP
polipropylen



Elementy
klinujące

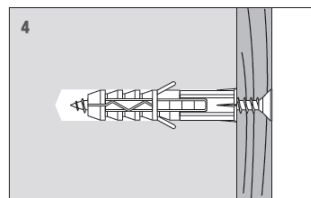
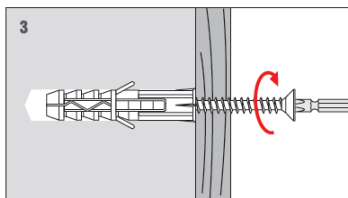
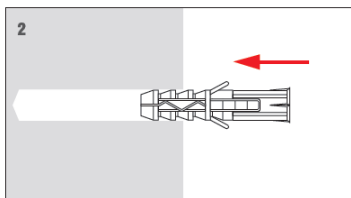
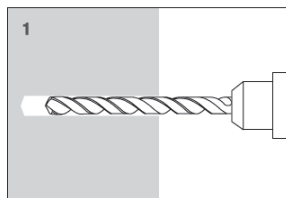


Expansion plugs hold National Technical Assessment: ITB-KOT-2018/0528 Rev. I



Section 2. METHOD OF INSTALLATION

1. Original expansion plugs delivered by the manufacturer can be used only
2. Before installation identify a substrate in which the plug will be installed and compare loads which the plug will carry to resistance values given in Product Data Sheet or National Technical Assessment
3. Select an adequate length of the plug so that expansion zone is in the construction material of the wall (thickness of member being fixed matches max. usable length of the plug – t_{fix})
4. Use proper method of drilling according to a substrate type (holes in masonry substrate made of autoclaved aerated concrete blocks should be drilled using a drill without impact)
5. Diameter of drilled holes should match diameter of the plugs used
6. Drilled holes in substrates of solid materials should be deeper by min. 10mm compared to the plug anchorage depth
7. Clean the holes in solid materials of drillings with a back and forth motion of the drill at a reduced speed
8. Then insert the plug into a drilled hole, and drive the screw through the element being fixed until it completely penetrates the sleeve (pre-fastening installation)



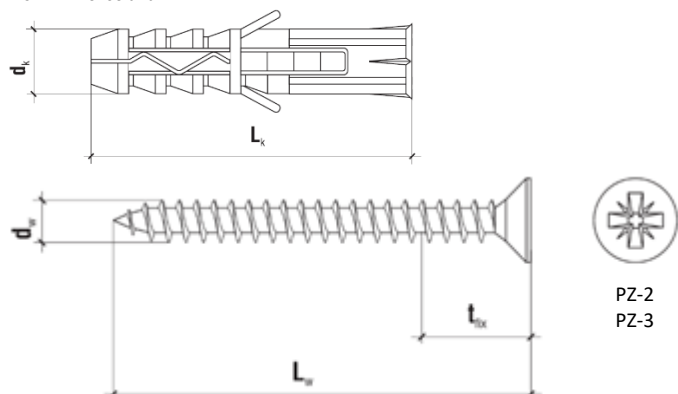
Section 3. TECHNICAL DATA

Substrate type	RESISTANCE					
	Design pull-out resistance [kN]					
	KRX-6/30	KRX-8/40	KRX-8/50	KRX-10/50	KRX-10/60	KRX-12/60
Concrete C20/25	-	-	0,06	0,06	0,11	0,06
Solid clay brick	-	0,04	0,12	0,04	0,08	0,08
Solid sand-lime brick	-	0,04	0,08	0,04	0,16	0,08

PRODUCT DATA SHEET – KRX

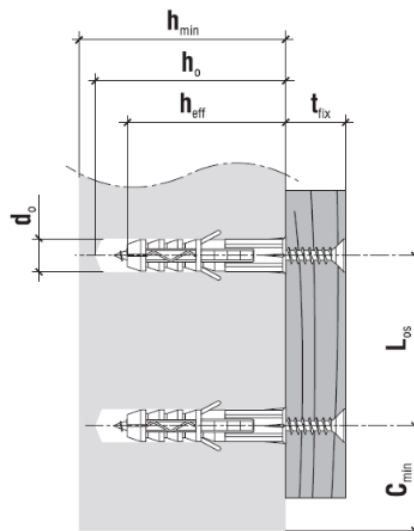
TECHNICAL PARAMETERS		
Parameter	Unit	Value
Plug diameter	d_k [mm]	6/8/10/12
Hole/drill diameter	d_o [mm]	6/8/10/12
Effective anchorage depth	h_{eff} [mm]	30/40/50/60
Drilled hole depth	h_o [mm]	40/50/60/70
Drive type	[-]	PZ-2/PZ-3*
Sleeve material	[-]	PP – polypropylene
Screw material	[-]	Zinc-plated steel
National Technical Assessment	[-]	KOT-2018/0528

*for KRX-10x60 and KRX-12



INSTALLATION PARAMETERS			
Plug type	Min. substrate thickness	Min. distance from edge	Min. axial distance
	h_{min} [mm]	c_{min} [mm]	L_{os} [mm]
KRX-6/30	45	60	60/90*
KRX-8/40	60	80	80/120*
KRX-8/50, KRX-10/50	75	100	100/150*
KRX-10/60, KRX-12/60	90	120	120/180*

*for concrete substrate/other substrates



SELECTION TABLE					
Product code	Sleeve diameter and length	Screw diameter and length	Max. usable length	Drive type	Number of pieces in a box
	$d_k \times L_k$ [mm]	$d_w \times L_w$ [mm]	t_{fix} [mm]	[-]	[pcs]
KRX-063530	6x30	3,5x30	1	PZ-2	200
KRX-063535	6x30	3,5x35	5	PZ-2	200
KRX-063540	6x30	3,5x40	10	PZ-2	200
KRX-063550	6x30	3,5x50	20	PZ-2	200
KRX-084040	8x40	4,0x40	1	PZ-2	100
KRX-084045	8x40	4,0x45	5	PZ-2	100
KRX-084050	8x40	4,0x50	10	PZ-2	100
KRX-084060	8x40	4,0x60	20	PZ-2	100
KRX-085050	8x50	5,0x50	1	PZ-2	100
KRX-085060	8x50	5,0x60	10	PZ-2	100
KRX-085070	8x50	5,0x70	20	PZ-2	100
KRX-085080	8x50	5,0x80	30	PZ-2	100
KRX-0850100	8x50	5,0x100	50	PZ-2	100
KRX-105050	10x50	5,0x50	1	PZ-2	100
KRX-105060	10x50	5,0x60	10	PZ-2	100
KRX-105070	10x50	5,0x70	20	PZ-2	100
KRX-105080	10x50	5,0x80	30	PZ-2	100
KRX-1050100	10x50	5,0x100	50	PZ-2	100
KRX-106060	10x60	6,0x60	1	PZ-3	100
KRX-106070	10x60	6,0x70	10	PZ-3	100
KRX-106080	10x60	6,0x80	20	PZ-3	100
KRX-1060100	10x60	6,0x100	40	PZ-3	100
KRX-1060120	10x60	6,0x120	60	PZ-3	100
KRX-126060	12x60	6,0x60	1	PZ-3	100
KRX-126070	12x60	6,0x70	10	PZ-3	100
KRX-126080	12x60	6,0x80	20	PZ-3	100
KRX-1260100	12x60	6,0x100	40	PZ-3	100
KRX-1260120	12x60	6,0x120	60	PZ-3	100

PRODUCT DATA SHEET – KRX

Section 4. REMARKS

1. All previous versions of this Product Data Sheet shall cease to be valid
2. Data given in this Product Data Sheet is in accordance with current knowledge and published in good faith. KLIMAS Sp. z o.o. is not responsible for correctness and quality of the fixing if recommendations regarding method of use and installation are not followed.

Nanjing Jingning Quality Inspection Company

Quality Certificate

Chipboard screw, yellow/white zinc plated



Spec.	size	torsion standard	result	Spec.	size	torsion standard	result
Chipboard screw, yellow zinc plated	2,5x10	1.00	Acc.	Chipboard screw, white zinc plated	3,5x16	2.00	Acc.
	2,5x16	1.00	Acc.		3,5x20	2.00	Acc.
	2,5x20	1.00	Acc.		3,5x25	2.00	Acc.
	2,5x25	1.00	Acc.		3,5x30	2.00	Acc.
	3,0x12	1.50	Acc.		3,5x35	2.00	Acc.
	3,0x16	1.50	Acc.		4,0x16	3.00	Acc.
	3,0x20	1.50	Acc.		4,0x20	3.00	Acc.
	3,0x25	1.50	Acc.		4,0x25	3.00	Acc.
	3,0x30	1.50	Acc.		4,0x30	3.00	Acc.
	3,0x35	1.50	Acc.		4,0x35	3.00	Acc.
	3,0x40	1.50	Acc.		4,0x40	3.00	Acc.
	3,5x16	2.00	Acc.		4,0x45	3.00	Acc.
	3,5x20	2.00	Acc.		4,0x50	3.00	Acc.
	3,5x25	2.00	Acc.		Chipboard screw, yellow zinc plated	4,5x80	4.40
	3,5x30	2.00	Acc.	5,0x20		6.20	Acc.
	3,5x35	2.00	Acc.	5,0x30		6.20	Acc.
	3,5x40	2.00	Acc.	5,0x40		6.20	Acc.
	3,5x50	2.00	Acc.	5,0x50		6.20	Acc.
	3,5x60	2.00	Acc.	5,0x60		6.20	Acc.
	4,0x16	3.00	Acc.	5,0x70		6.20	Acc.
	4,0x20	3.00	Acc.	5,0x80		6.20	Acc.
	4,0x25	3.00	Acc.	5,0x100		6.20	Acc.
	4,0x30	3.00	Acc.	6,0x40		10.80	Acc.
	4,0x35	3.00	Acc.	6,0x50		10.80	Acc.
	4,0x40	3.00	Acc.	6,0x60		10.80	Acc.
	4,0x45	3.00	Acc.	6,0x70		10.80	Acc.
	4,0x50	3.00	Acc.	6,0x80		10.80	Acc.
	4,0x60	3.00	Acc.	6,0x100		10.80	Acc.
	4,0x70	3.00	Acc.	6,0x120		10.80	Acc.
	6,0x140	10.80	Acc.	6,0x180		10.80	Acc.
	6,0x160	10.80	Acc.	6,0x200		10.80	Acc.
	Remark: Acc. Stands for acceptable						

Steel grade: SWRCH22A						
Specification: Q/ASB 234-2015						
Chemical composition & Technical specification						
Element	C%	Si%	Mn%	P%	S%	Cr%
Ratio	21	8	78	1.7	0.7	2
	Elongation			Contraction Percentage		Tensile Strength (Mpa)
Ratio	28%			64%		498

Inspection date: 2016.1.20

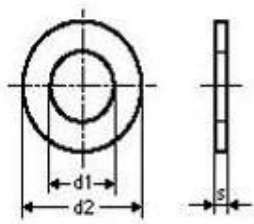
Inspector:Li Jun



Nanjing Jingning Quality Inspection Company

Quality Certificate

Washers DIN 125A, white zinc plated, class 5.8



Items	d2(mm)		d1(mm)		s(mm)	
	Standard	Testing result	Standard	Testing result	Standard	Testing result
M-4	8.64-9.00	Acc.	4.30-4.48	Acc.	0.70-0.90	Acc.
M-5	9.64-10.00	Acc.	5.30-5.48	Acc.	0.90-1.10	Acc.
M-6	11.57-12.00	Acc.	6.40-6.62	Acc.	1.40-1.80	Acc.
M-8	15.57-16.00	Acc.	8.40-8.62	Acc.	1.40-1.80	Acc.
M-10	19.48-20.00	Acc.	10.50-10.77	Acc.	1.80-2.20	Acc.
M-12	23.48-24.00	Acc.	13.00-13.27	Acc.	2.30-2.70	Acc.
M-14	27.48-28.00	Acc.	15.00-15.27	Acc.	2.30-2.70	Acc.
M-16	29.48-30.00	Acc.	17.00-17.27	Acc.	2.70-3.30	Acc.
M-18	33.48-34.00	Acc.	19.00-19.33	Acc.	2.70-3.30	Acc.
M-20	36.38-37.00	Acc.	21.00-21.33	Acc.	2.70-3.30	Acc.
Remark: Acc. Stands for acceptable						

Material: Q235

Chemical composition & Technical specification

Element	C%	Si%	Mn%	P%	S%	Ni%
Ratio	24	30	40	4	4.5	0.3

Inspection date: 2016.1.15

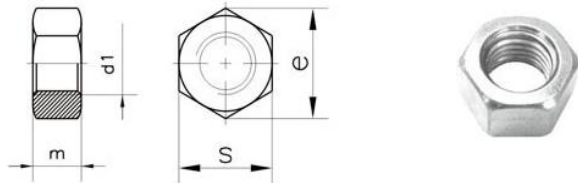
Inspector: Li Jun



Nanjing Jingning Quality Inspection Company

Quality Certificate

DIN 934 Hexagon Nuts, white zinc plated, class 5.8



Items	e(mm)		m(mm)		s(mm)	
	Standard	Testing result	Standard	Testing result	Standard	Testing result
M4	≥ 7.66	Acc.	2.90-3.20	Acc.	6.78-7.00	Acc.
M-5	≥ 8.79	Acc.	3.70-4.00	Acc.	7.78-8.00	Acc.
M-6	≥ 11.05	Acc.	4.70-5.00	Acc.	9.78-10.00	Acc.
M-8	≥ 14.38	Acc.	6.14-6.50	Acc.	12.73-13.00	Acc.
M-10	≥ 18.90	Acc.	7.64-8.00	Acc.	16.73-17.00	Acc.
M-12	≥ 21.10	Acc.	9.64-10.00	Acc.	18.67-19.00	Acc.
M-14	≥ 24.49	Acc.	10.30-11.00	Acc.	21.67-22.00	Acc.
M-16	≥ 26.75	Acc.	12.30-13.00	Acc.	23.67-24.00	Acc.
M-18	≥ 29.56	Acc.	14.30-14.00	Acc.	26.16-27.00	Acc.
M-20	≥ 32.95	Acc.	14.90-16.00	Acc.	29.16-30.00	Acc.
M-24	≥ 39.55	Acc.	17.70-19.00	Acc.	35.00-36.00	Acc.

Remark: Acc. Stands for acceptable

Material: Q195

Chemical composition & Technical specification

Element	C%	Si%	Mn%	P%	S%	Tensile Strength (Mpa)		Cold Bent Test
Ratio						Rel	Rm	OK
	7	11	33	2.3	2.3	223.21	380.36	

Inspection date: 2016.1.15

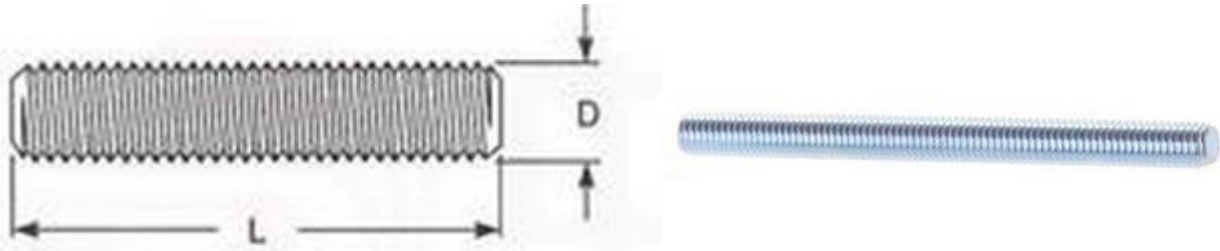
Inspector: Li Jun



Nanjing Jingning Quality Inspection Company

Quality Certificate

DIN975, Threaded Rods, Zinc Plated, 5.8



Items	Go Gauge		D mm		Surface
	Standard	Testing result	Standard	Testing result	Testing result
4x1000	6h	Pass	3.89-3.98	Acc.	OK
5x1000	6h	Pass	4.84-4.97	Acc.	OK
6x1000	6h	Pass	5.80-5.96	Acc.	OK
8x1000	6h	Pass	7.77-7.96	Acc.	OK
10x1000	6h	Pass	9.74-9.96	Acc.	OK
12x1000	6h	Pass	11.71-11.95	Acc.	OK
14x1000	6h	Pass	13.70-13.94	Acc.	OK
16x1000	6h	Pass	15.70-15.94	Acc.	OK
18x1000	6h	Pass	17.64-17.93	Acc.	OK
20x1000	6h	Pass	19.64-19.93	Acc.	OK
24x1000	6h	Pass	23.64-23.93	Acc.	OK
6x2000	6h	Pass	5.80-5.96	Acc.	OK
8x2000	6h	Pass	7.77-7.96	Acc.	OK
10x2000	6h	Pass	9.74-9.96	Acc.	OK
12x2000	6h	Pass	11.71-11.95	Acc.	OK
14x2000	6h	Pass	13.70-13.94	Acc.	OK
16x2000	6h	Pass	15.72-16.00	Acc.	OK
20x2000	6h	Pass	19.64-19.93	Acc.	OK
24x2000	6h	Pass	23.64-23.93	Acc.	OK
Remark: Acc. Stands for acceptable					

Material: Q195

Chemical composition & Technical specification

Element	C	P	S	B	Tensile strength (N/mm2)	Hardness (HRB)
Standard	≤0.55	≤0.05	≤0.06	/	ISO898-1:2009	ISO898-1:2009
Testing result	0.18	0.032	0.032	/	OK	OK

Conclusion: These test results meet the standard of ISO898-1:2009(E)

Inspection date: 2016.1.15

Inspector:Li Jun



Nanjing Jingning Quality Inspection Company

Quality Certificate

Drywall Screw, Coarse/Fine Thread, GRAY phosphate



Specification	Items	torsion standard	Attack speed	result
Drywall Screw, Fine Thread	3,5x16	2.80	1S	Acc.
	3,5x19	2.80	1S	Acc.
	3,5x25	2.80	1S	Acc.
	3,5x35	2.80	1S	Acc.
	3,5x45	2.80	1S	Acc.
	3,5x55	2.80	1S	Acc.
	4,2x70	4.90	1S	Acc.
	4,8x89	4.90	1S	Acc.
	4,8x102	6.80	1S	Acc.
Drywall Screw, Coarse Thread	3,5x16	2.80	--	Acc.
	3,5x19	2.80	--	Acc.
	3,5x25	2.80	--	Acc.
	3,5x32	2.80	--	Acc.
	3,5x35	2.80	--	Acc.
	3,5x41	2.80	--	Acc.
	3,5x45	2.80	--	Acc.
	3,5x51	2.80	--	Acc.
	3,5x55	2.80	--	Acc.
	3,8x64	3.40	--	Acc.
	4,2x70	4.90	--	Acc.
	4,2x76	4.90	--	Acc.
	4,8x89	6.80	--	Acc.
	4,8x95	6.80	--	Acc.
	4,8x102	6.80	--	Acc.
	4,8x120	6.80	--	Acc.
	4,8x152	6.80	--	Acc.

Remark: Acc. Stands for acceptable

Steel grade: SWRCH22A						
Specification: Q/ASB 234-2015						
Chemical composition & Technical specification						
Element	C%	Si%	Mn%	P%	S%	Cr%
Ratio	21	8	78	1.7	0.7	2
	Elongation			Contraction Percentage		Tensile Strength (Mpa)
Ratio	28%			64%		498

Inspection date: 2016.1.20

Inspector:Li Jun



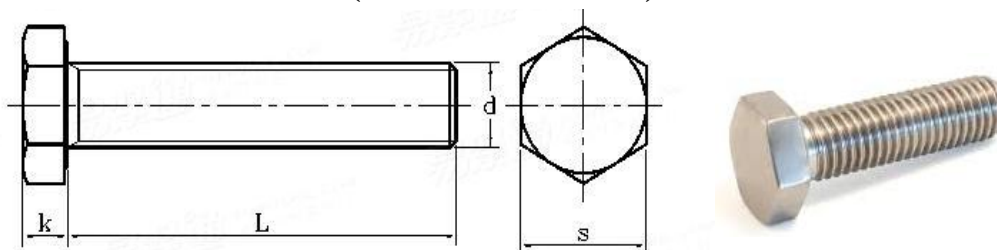
Nanjing Jingning Quality Inspection Company

TEST REPORT

Tests for the company: PROFMET GRUP SRL MOLDOVA

1. TEST DATE: May.19,2016
2. NUMBER OF SAMPLES TESTED: 80PCS
3. APPLICABLE STANDARD: DIN933
4. INSPECTOR: LI JUN

DIN933 Bolt, class -8.8 zinc-coated (35K, with heat treatment)



DIN933 6*20
6*50

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 9.78-10		min~max(mm) 9.88-9.96		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 11.05		min(mm) 12.09		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 3.85-4.15		min ~ max (mm) 3.88-4.12		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 800		min(Mpa) 868		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 580		Mpa 580		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 22-32		HRC 25-28		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.8		O.K.	
CHEMICAL COMPOSITION 35K	C	Si	Mn	P	S	
	0.37	0.18	0.67	0.019	0.009	
LENGTH(L)=20						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.42		min~max(mm) L±0.38		O.K.	
LENGTH(L)=50						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.5		min~max(mm) L±0.42		O.K.	

DIN933	8*25	8*60
	8*30	8*70
	8*50	8*80

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 12.73-13		min~max(mm) 12.75-12.88		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 14.38		min(mm) 14.75		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 5.15-5.45		min ~ max (mm) 5.22-5.37		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 800		min(Mpa) 871		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 580		Mpa 580		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 22-32		HRC 26-29		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.2		O.K.	
CHEMICAL COMPOSITION 35K	C	Si	Mn	P	S	
	0.34	0.23	0.64	0.012	0.013	
LENGTH(L)=25-30						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.42		min~max(mm) L±0.35		O.K.	
LENGTH(L)=50						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.5		min~max(mm) L±0.42		O.K.	
LENGTH(L)=60-80						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.6		min~max(mm) L±0.53		O.K.	

DIN933	10*25	10*50
	10*30	10*60
	10*40	10*70
	10*45	10*100

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 16.73-17		min~max(mm) 16.75-16.86		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 18.90		min(mm) 19.28		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 6.22-6.58		min ~ max (mm) 6.33-6.42		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 800		min(Mpa) 865		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 580		Mpa 580		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 22-32		HRC 25-27		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.3		O.K.	
CHEMICAL COMPOSITION 35K	C	Si	Mn	P	S	
	0.34	0.25	0.65	0.014	0.016	
LENGTH(L)=25-30						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.42		min~max(mm) L±0.37		O.K.	
LENGTH(L)=40-50						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.5		min~max(mm) L±0.44		O.K.	
LENGTH(L)=60-70						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.6		min~max(mm) L±0.48		O.K.	
LENGTH(L)=100						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.7		min~max(mm) L±0.62		O.K.	

DIN933 12*40
12*45
12*50

12*60
12*100

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 18.67-19		min~max(mm) 18.74-18.86		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 21.10		min(mm) 21.46		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 7.32-7.68		min ~ max (mm) 7.44-7.58		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 800		min(Mpa) 863		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 580		Mpa 580		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 22-32		HRC 26-28		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.4		O.K.	
CHEMICAL COMPOSITION	C	Si	Mn	P	S	
35K	0.35	0.25	0.66	0.015	0.017	
LENGTH(L)=40-50						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.5		min~max(mm) L±0.46		O.K.	
LENGTH(L)=60						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.6		min~max(mm) L±0.51		O.K.	
LENGTH(L)=100						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.7		min~max(mm) L±0.63		O.K.	

DIN933 16*40
16*50

16*70
16*80

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 23.67-24		min~max(mm) 23.75-23.89		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 26.75		min(mm) 27.13		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 9.82-10.18		min ~ max (mm) 9.95-10.06		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 800		min(Mpa) 861		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 580		Mpa 580		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 22-32		HRC 27-29		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.5		O.K.	
CHEMICAL COMPOSITION 35K	C	Si	Mn	P	S	
	0.35	0.28	0.69	0.015	0.016	
LENGTH(L)=40-50						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.5		min~max(mm) L±0.46		O.K.	
LENGTH(L)=70-80						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.6		min~max(mm) L±0.53		O.K.	

DIN933 20*60

CHARCTERISTIC	STANDRD		RESULT		ACCEPT	
WIDTH ACROSS FLATS SAMPLE PIECES 80(s)	min~max(mm) 29.67-30		min~max(mm) 29.77-29.89		O.K.	
WIDTH ACROSS CORNERS SAMPLES PIECES 80(e)	min(mm) 33.53		min(mm) 33.85		O.K.	
HEIGHT OF HEAD SAMPLES PIECES 80(k)	min ~ max (mm) 12.28-12.72		min ~ max (mm) 12.32-12.66		O.K.	
THREAD "GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
THREAD "NOT GO" SAMPLE PIECES 80(d)	6g		6g		O.K.	
TENSILE STRENGTH SAMPLE PIECES 80	min(Mpa) 830		min(Mpa) 911		O.K.	
STRESS UNDER PROOFING LOAD SAMPLE PIECES 80(d)	Mpa 600		Mpa 600		O.K.	
HARDNESS SAMPLE PIECES 80	HRC 23-34		HRC 26-30		O.K.	
ELONGATION SAMPLE PIECES 80	min (%) 12		min (%) 13.6		O.K.	
CHEMICAL COMPOSITION 35K	C	Si	Mn	P	S	
	0.36	0.28	0.73	0.021	0.022	
LENGTH(L)=60						
LENGTH SAMPLES PIECES 80	min~max(mm) L±0.6		min~max(mm) L±0.52		O.K.	

CONCLUSION:

THIS IS TO CONFIRM THAT THE GOODS WERE TESTED IN THE PRESENCE OF THE INSPECTOR AND FOUND TO BE IN CONFORMITY WITH DIN933 STANDARD.

