

## Příloha 1

### Zdrojový kód robota pro zkoušku č. 1 – robotický nanášec malty

[<http://www.robostav.cz/> - B482 - Laboratoř pro robotizaci stavebních procesů]

```
&ACCESS RVO
&REL 182
&PARAM EDITMASK = *
&PARAM TEMPLATE = C:\KRC\Roboter\Template\vorgabe
&PARAM DISKPATH = KRC:\R1\Program\TACR\Faze_2_Zdeni_na_vazbu
DEFDAT Malta_Pokus PUBLIC
;FOLD EXTERNAL DECLARATIONS;%{PE}%MKUKATPBASIS,%CEXT,%VCOMMON,%P
;FOLD BASISTECH EXT;%{PE}%MKUKATPBASIS,%CEXT,%VEXT,%P
EXT BAS (BAS_COMMAND :IN,REAL :IN )
;ENDFOLD (BASISTECH EXT)
;FOLD USER EXT;%{E}%MKUKATPUSER,%CEXT,%VEXT,%P
;Make your modifications here
;ENDFOLD (USER EXT)
;ENDFOLD (EXTERNAL DECLARATIONS)
DECL BASIS_SUGG_T LAST_BASIS={POINT1[] "malt_2_hruby      ",POINT2[] "malt_2_hruby
",CP_PARAMS[] "CPDAT31      ",PTP_PARAMS[] "PDAT32      ",CONT[] "C_DIS
",CP_VEL[] "2      ",PTP_VEL[] "100      ",SYNC_PARAMS[] "SYNCDAT
",SPL_NAME[] "SO      ",A_PARAMS[] "ADATO      "}
DECL E6POS XMALT_1_HRUBY={X 561.602966,Y 63.7093964,Z 566.238098,A 124.540588,B
45.1390152,C 134.557816,S 6,T 59,E1 0.0,E2 0.0,E3 0.0,E4 0.0,E5 0.0,E6 0.0}
DECL FDAT Fmalt_1_hruby={TOOL_NO 1,BASE_NO 0,IPO_FRAME #BASE,POINT2[] " ",TQ_STATE
FALSE}
DECL PDAT PPDAT31={VEL 100.000,ACC 100.000,APO_DIST 10.0000,APO_MODE #CDIS,GEAR_JERK
50.0000,EXAX_IGN 0}
DECL E6POS XMALT_1_PRESNY={X 561.140503,Y 65.6356,Z 542.357605,A 126.203041,B
45.6006775,C 135.402603,S 6,T 59,E1 0.0,E2 0.0,E3 0.0,E4 0.0,E5 0.0,E6 0.0}
DECL FDAT Fmalt_1_presny={TOOL_NO 1,BASE_NO 0,IPO_FRAME #BASE,POINT2[] " ",TQ_STATE
FALSE}
DECL LDAT LCPDAT30={VEL 2.00000,ACC 100.000,APO_DIST 1.00000,APO_FAC 50.0000,AXIS_VEL
100.000,AXIS_ACC 100.000,ORI_TYP #VAR,CIRC_TYP #BASE,JERK_FAC 50.0000,GEAR_JERK
50.0000,EXAX_IGN 0}
```

DECL E6POS XMALT\_2\_PRESNY={X 561.140564,Y -769.350159,Z 544.915588,A 126.282036,B  
45.7060165,C 135.513062,S 6,T 50,E1 0.0,E2 0.0,E3 0.0,E4 0.0,E5 0.0,E6 0.0}

DECL FDAT Fmalt\_2\_presny={TOOL\_NO 1,BASE\_NO 0,IPO\_FRAME #BASE,POINT2[] " ",TQ\_STATE  
FALSE}

DECL LDAT LCPDAT31={VEL 2.00000,ACC 100.000,APO\_DIST 1.00000,APO\_FAC 50.0000,AXIS\_VEL  
100.000,AXIS\_ACC 100.000,ORI\_TYP #VAR,CIRC\_TYP #BASE,JERK\_FAC 50.0000,GEAR\_JERK  
50.0000,EXAX\_IGN 0}

DECL E6POS XMALT\_2\_HRUBY={X 561.140564,Y -769.350159,Z 644.915588,A 126.282036,B  
45.7060165,C 135.513062,S 6,T 50,E1 0.0,E2 0.0,E3 0.0,E4 0.0,E5 0.0,E6 0.0}

DECL FDAT Fmalt\_2\_hruby={TOOL\_NO 1,BASE\_NO 0,IPO\_FRAME #BASE,POINT2[] " ",TQ\_STATE  
FALSE}

DECL PDAT PPDAT32={VEL 100.000,ACC 100.000,APO\_DIST 10.0000,APO\_MODE #CDIS,GEAR\_JERK  
50.0000,EXAX\_IGN 0}

ENDDAT

&ACCESS RVO

&REL 182

&PARAM EDITMASK = \*

&PARAM TEMPLATE = C:\KRC\Roboter\Template\vorgabe

&PARAM DISKPATH = KRC:\R1\Program\TACR\\_Faze\_2\_Zdeni\_na\_vazbu

DEF Malta\_Pokus()

DECL REAL rVelPTP,rVelLIN

rVelPTP = 10.0

rVelLIN = 5.0

\$ADVANCE = 3

;FOLD PTP HOME15 Vel=2 % DEFAULT Tool[14]:Grip changable Base[1]:Plocha001;{%PE}%R  
8.3.44,%MKUKATPBASIS,%CMOVE,%VPTP,%P 1:PTP, 2:HOME15, 3:, 5:2, 7:DEFAULT

\$BWDSTART=FALSE

PDAT\_ACT=PDEFAULT

FDAT\_ACT=FHOME15

BAS(#PTP\_PARAMS,rVelPTP)

PTP XHOME15

;ENDFOLD

; nabrani davkovace malty

;takeGripMalta()

; prevest pist nahoru

maltaPistUp()

; uzavrit dolni otvory davkovace

maltaOtvorOff()

; pohybove instrukce (cilovy bod)

; PTP (hruba pozice 1)

```
;FOLD PTP malt_1_hrubby CONT Vel=100 % PDAT31 Tool[1]:Nastroj001 Base[0];%{PE}%R
8.3.44,%MKUKATPBASIS,%CMOVE,%VPTP,%P 1:PTP, 2:malt_1_hrubby, 3:C_DIS, 5:100, 7:PDAT31
```

```
$BWDSTART=FALSE
```

```
PDAT_ACT=PPDAT31
```

```
FDAT_ACT=Fmalt_1_hrubby
```

```
BAS(#PTP_PARAMS,100)
```

```
PTP Xmalt_1_hrubby C_DIS
```

```
;ENDFOLD
```

; LIN (presna pozice 1)

```
;FOLD LIN malt_1_presny CONT Vel=2 m/s CPDAT30 Tool[1]:Nastroj001 Base[0];%{PE}%R
8.3.44,%MKUKATPBASIS,%CMOVE,%VLIN,%P 1:LIN, 2:malt_1_presny, 3:C_DIS C_DIS, 5:2, 7:CPDAT30
```

```
$BWDSTART=FALSE
```

```
LDAT_ACT=LCPDAT30
```

```
FDAT_ACT=Fmalt_1_presny
```

```
BAS(#CP_PARAMS,rVelLIN)
```

```
LIN Xmalt_1_presny C_DIS C_DIS
```

```
;ENDFOLD
```

```
WAIT SEC 0
```

; zacit tlacit dolu

```
maltaPistDownPush ()
```

; otvrit dolni otvory davkovace

```
maltaOtvorOn()
```

; LIN (presna pozice 2)

;FOLD LIN malt\_2\_presny CONT Vel=2 m/s CPDAT31 Tool[1]:Nastroj001 Base[0];%{PE}%R  
8.3.44,%MKUKATPBASIS,%CMOVE,%VLIN,%P 1:LIN, 2:malt\_2\_presny, 3:C\_DIS C\_DIS, 5:2, 7:CPDAT31

\$BWDSTART=FALSE

L DAT\_ACT=LCPDAT31

F DAT\_ACT=Fmalt\_2\_presny

BAS(#CP\_PARAMS,rVelLIN)

LIN Xmalt\_2\_presny C\_DIS C\_DIS

;ENDFOLD

; uzavrit dolni otvory davkovace

maltaOtvorOff()

; prestat tlacit

maltaPistDownDontPush()

WAIT SEC 0

; PTP (hruba pozice 2)

;FOLD PTP malt\_2\_hruby CONT Vel=100 % PDAT32 Tool[1]:Nastroj001 Base[0];%{PE}%R  
8.3.44,%MKUKATPBASIS,%CMOVE,%VPTP,%P 1:PTP, 2:malt\_2\_hruby, 3:C\_DIS, 5:100, 7:PDAT32

\$BWDSTART=FALSE

P DAT\_ACT=PPDAT32

F DAT\_ACT=Fmalt\_2\_hruby

BAS(#PTP\_PARAMS,rVelPTP)

PTP Xmalt\_2\_hruby C\_DIS

;ENDFOLD

;FOLD PTP HOME15 Vel=2 % DEFAULT Tool[14]:Grip changable Base[1]:Plocha001;{%PE}%R  
8.3.44,%MKUKATPBASIS,%CMOVE,%VPTP,%P 1:PTP, 2:HOME15, 3:, 5:2, 7:DEFAULT

\$BWDSTART=FALSE

PDAT\_ACT=PDEFAULT

FDAT\_ACT=FHOME15

BAS(#PTP\_PARAMS,rVelPTP)

PTP XHOME15

;ENDFOLD

; uzavrit dolni otvory davkovace

maltaOtvorOff()

; prevest pist nahoru

maltaPistUp()

; odebrani davkovace malty

;giveGripMalta()

;FOLD PTP HOME15 Vel=2 % DEFAULT Tool[14]:Grip changable Base[1]:Plocha001;{%PE}%R  
8.3.44,%MKUKATPBASIS,%CMOVE,%VPTP,%P 1:PTP, 2:HOME15, 3:, 5:2, 7:DEFAULT

\$BWDSTART=FALSE

PDAT\_ACT=PDEFAULT

FDAT\_ACT=FHOME15

BAS(#PTP\_PARAMS,rVelPTP)

PTP XHOME15

;ENDFOLD

END