

/macros

/macros/Filament Handling

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; 0:/macros/Filament Handling
; Macro used for all filament handling evolutions

if state.status != "processing" ; Printer is not currently printing!

    if sensors.filamentMonitors[0].filamentPresent = true ; Filament is detected, currently loaded

        M291 P"Press OK to begin filament UNLOADING, else press CANCEL to exit." R"Filament Handling" S3
        M98 P"0:/macros/Heat Nozzle" ; Heat nozzle to predetermined temp
        M291 P"Ready for filament unloading. Gently pull filament and press OK." R"Filament Handling" S2
        M291 P"Retracting filament..." T5 ; Display another message
        G1 E-150 F5000 ; Retract filament
        M400 ; Wait for the moves to finish
        T0 M702 ; Select tool 0, set filament is unloaded
        M104 S-273 ; Turn off hotend
        M140 S-273 ; Turn off heatbed
        M98 P"0:/macros/Filament Handling"; run again ; Now that filament is unloaded, lets ask to load
        filament

    else

        M291 P"Press OK to begin filament LOADING, else press CANCEL to exit." R"Filament Handling" S3
        M98 P"0:/macros/Heat Nozzle" ; Heat nozzle to predetermined temp
        M291 P"Ready for filament loading. Insert filament and press OK." R"Filament Handling" S2
        M291 P"Feeding filament..." T5 ; Display new message
        G1 E150 F450 ; Feed 150mm of filament at 600mm/min
        G1 E20 F100 ; Feed 20mm of filament at 100mm/min
        G4 P1000 ; Wait one second
        G1 E-1 F1800 ; Retract 10mm of filament at 1800mm/min
        M400 ; Wait for moves to complete
        M98 P"0:/sys/filaset" ; Set system filament type
        M400 ; Wait for moves to complete
        M104 S-273 ; Turn off hotend
        M140 S-273 ; Turn off heatbed

    else

        M291 P"Press OK to begin filament CHANGE, else press CANCEL to exit." R"Filament Handling" S3
        M98 P"0:/sys/filament-change.g" ; Call filament-change.g
        M24 ; Start/resume SD print
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/macros/Heat Nozzle

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; 0:/macros/Heat Nozzle
; Heat nozzle to set temp

M291 R"Filament Handling" P"Heating nozzle for PETg, please wait." S0 T10
T0 ; Select Tool 0
M109 S230 ; set temp to 230c and wait
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/macros/Set Filament Type

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; 0:/macros/Set Filament Type
; Macro used to set system's loaded filament type

if sensors.filamentMonitors[0].filamentPresent = false ; if filament is loaded then reject action to
change filament type

    M291 P("System filament is currently set to " ^ move.extruders[0].filament ^ ". Press OK to change filament
type, else press CANCEL to exit.") R"Filament Handling" S3

    ; Set PLA temp
    M28 "0:/macros/Heat Nozzle" ; Begin writing to SD card file
    M291 R"Filament Handling" P"Heating nozzle for PLA, please wait." S0 T10
    T0 ; Activate Hotend
    M109 S200 ; set temp to 200c and wait
    M29 ; Stop writing to SD card

    M28 "0:/sys/filaset" ; Begin writing to SD card file
    T0 M702 ; Set system filament as UNLOADED
    T0 M701 S"PLA" ; Set system filament as PLA
    M29 ; Stop writing to SD card

    M291 S3 R"Filament Handling" P"Filament type currently set to PLA. Press cancel to save this selection or OK
to proceed to next filament type."

    ; Set PETg temp
    M28 "0:/macros/Heat Nozzle" ; Begin writing to SD card file
    M291 R"Filament Handling" P"Heating nozzle for PETg, please wait." S0 T10
    T0 ; Activate Hotend
    M109 S230 ; set temp to 230c and wait
    M29 ; Stop writing to SD card

    M28 "0:/sys/filaset" ; Begin writing to SD card file
    T0 M702 ; Set system filament as UNLOADED
    T0 M701 S"PETG" ; Set system filament as PETG
    M29 ; Stop writing to SD card

    M291 S3 R"Filament Handling" P"Filament type currently set to PETg. Press cancel to save this selection or OK
to proceed to next filament type."

    ; Set ABS temp
    M28 "0:/macros/Heat Nozzle" ; Begin writing to SD card file
    M291 R"Filament Handling" P"Heating nozzle for ABS, please wait." S0 T10
    T0 ; Activate Hotend
    M109 S250 ; set temp to 250c and wait
    M29 ; Stop writing to SD card

    M28 "0:/sys/filaset" ; Begin writing to SD card file
    T0 M702 ; Set system filament as UNLOADED
    T0 M701 S"ABS" ; Set system filament as ABS
    M29 ; Stop writing to SD card

    M291 S3 R"Filament Handling" P"Filament type currently set to ABS. Press cancel to save this selection or OK
to proceed to next filament type."

    ; Set PC temp
    M28 "0:/macros/Heat Nozzle" ; Begin writing to SD card file
    M291 R"Filament Handling" P"Heating nozzle for PC, please wait." S0 T10
    T0 ; Activate Hotend
    M109 S270 ; set temp to 270c and wait
    M29 ; Stop writing to SD card

    M28 "0:/sys/filaset" ; Begin writing to SD card file
    T0 M702 ; Set system filament as UNLOADED
    T0 M701 S"PC" ; Set system filament as PC
    M29 ; Stop writing to SD card

    M291 S3 R"Filament Handling" P"Filament type currently set to PC. Press cancel to save this selection or OK to
proceed to next filament type."

else

    M291 S3 R"Filament Handling" P"Filament is currently loaded. Please unload filament before changing filament
type."
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