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pdfPost Tutorial

Customizing Color Legends.

This tutorial shows how to customize color legends. In pdfPost it is possible to manually override ranges and increase/decrease number of colors. It is also possible to set transparency level for each color.

- how to manually override color ranges;
- how to add/remove colors;
- how to set transparency level;

Setting up project

a. Create/copy empty ANSYS database to the project directory of choosing;
b. Unzip Tutorial4_Files.zip (valve.cdb, valve.s01, APDLtoPDF.lib, tutorial4.inp) to the project directory;
c. Open ANSYS database and:
   i. enter preprocessor - /PREP7
   ii. deactivate element shape check - SHPP,OFF
   iii. read CDB file - CDREAD,DB,valve,cdb
   iv. read load step file - LSREAD,1
   v. enter solution processor - /SOLU
   vi. solve model - SOLVE

- **Saving geometry**

a. Create component to export:
   i. select solid elements - ESEL,S,ENAME,,185
   ii. create component - CM,valve,ELEM
   iii. in project directory, create text file named "CompL_valve.txt". First line of this file should contain name of the component ("valve"). In case there are more components, each line should have single component name;
b. load the APDLtoPDF.lib library - *ULIB,APDLtoPDF,lib
c. create name for the PDF project - *USE,setProjectName,'valve'
d. create default file names based on project name - *USE,setFileNames
e. create pdfPost geometry input files - *USE,saveGeometry
f. start XML configuration file and write geometry information:
   i. *USE,initXml
   ii. *USE,XmlDocument
   iii. *USE,XmlComponents
   iv. *USE,XmlETypes

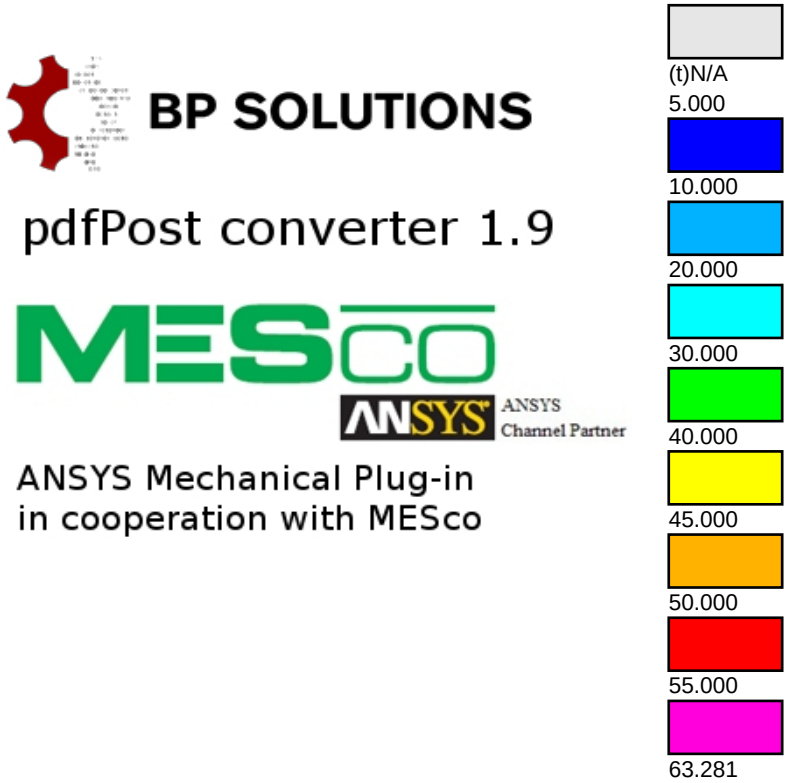
3. **Creating and storing results**
    a. Create ETABLE for exported component:
        i. enter postprocessor - /POST1
        ii. create ETABLE for equivalent stress - ETABLE,SEQV,S,EQV
    b. Store ETABLE data and add plot data to XML configuration file:
        i. *USE, writeEtable,'SEQV',-1e8,1e8, 'S'
        ii. *USE,XmlPlot
    c. Close XML configuration file and clear APDLtoPDF library variables:
        i. *USE,endXml
        ii. *USE,clearVars
        iii. *ULIB
4. **Modyfing pdfPost XML configuration files**
    a. Run pdfPost and open valve.xml created by procedure described in steps 1 to 3;
    b. Go to the "Plot" tab and right click on "Color Legend" input filed. Select "Send to Legend Manager" option from context menu;
    c. In Legend Manager do the following:
        i. remove third (0,255,178,255) and fifth (178,255,0,255) color;
        ii. for the „undefined" color (0,0,0,255), set "Alpha" to 50;
        iii. duplicate last one (255,0,0,255) and switch to magenta (255,0,220,255);
        iv. save legend as "myLegend.xml" in project directory;
    d. Right click on "Color Legend" input filed again and select myLegend.xml from "Working Directory" option;
    e. Do the following in "Value Ranges":
        i. select "Manual" from drop-down menu;
        ii. in input field please type "5;10;20;30;40;45;50;55;{max}" (without quotation marks) – with these settings, stress ranges will be defined by values separated by semicolon. Additional {max} parameter is used to include maximum value from selected plot. "Undefined" color will be used for elements with stress value below 5 N/mm^2;
    f. Save changes and create 3D PDF:
        i. Save XML configuration file - CTRL+S
        ii. Start conversion - CTRL+P
        iii. Open created 3D PDF - CTRL+SHIFT+O

5. Other information

a. If you're not ANSYS user, you can use files in subfolder "additionalFiles" and start this tutorial from step 4.
b. Commands in this tutorial (steps 1 to 3) may be stacked up in a single input file (check tutorial4.inp);
c. Detailed information about APDLtoPDF library (arguments, method descriptions) can be found inside APDLtoPDF.lib file;
d. APDLtoPDF macro library can be freely modified. This tutorial was prepared using APDLtoPDF version 1.2. Suggestions and bugs can be reported at pdfPost@bpsolutions.com.pl;

Tutorial 4 - Customizing Color Legends

Equivalent Stress [N/mm2]



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