Dataset Analysis Report

# Missing Values Analysis

Type\_of\_fiber 0  
Fiber\_diameter 0  
Embedded\_length 0  
Youngs\_modulus\_of\_fiber 0  
Poisson\_ratio\_of\_fiber 0  
Type\_of\_matrix 0  
Youngs\_modulus\_of\_matrix 0  
Poissons\_ratio\_of\_matrix 0  
Loading\_rate 0  
Prepare\_temperature 0  
Test\_temperature 0  
Fmax 0

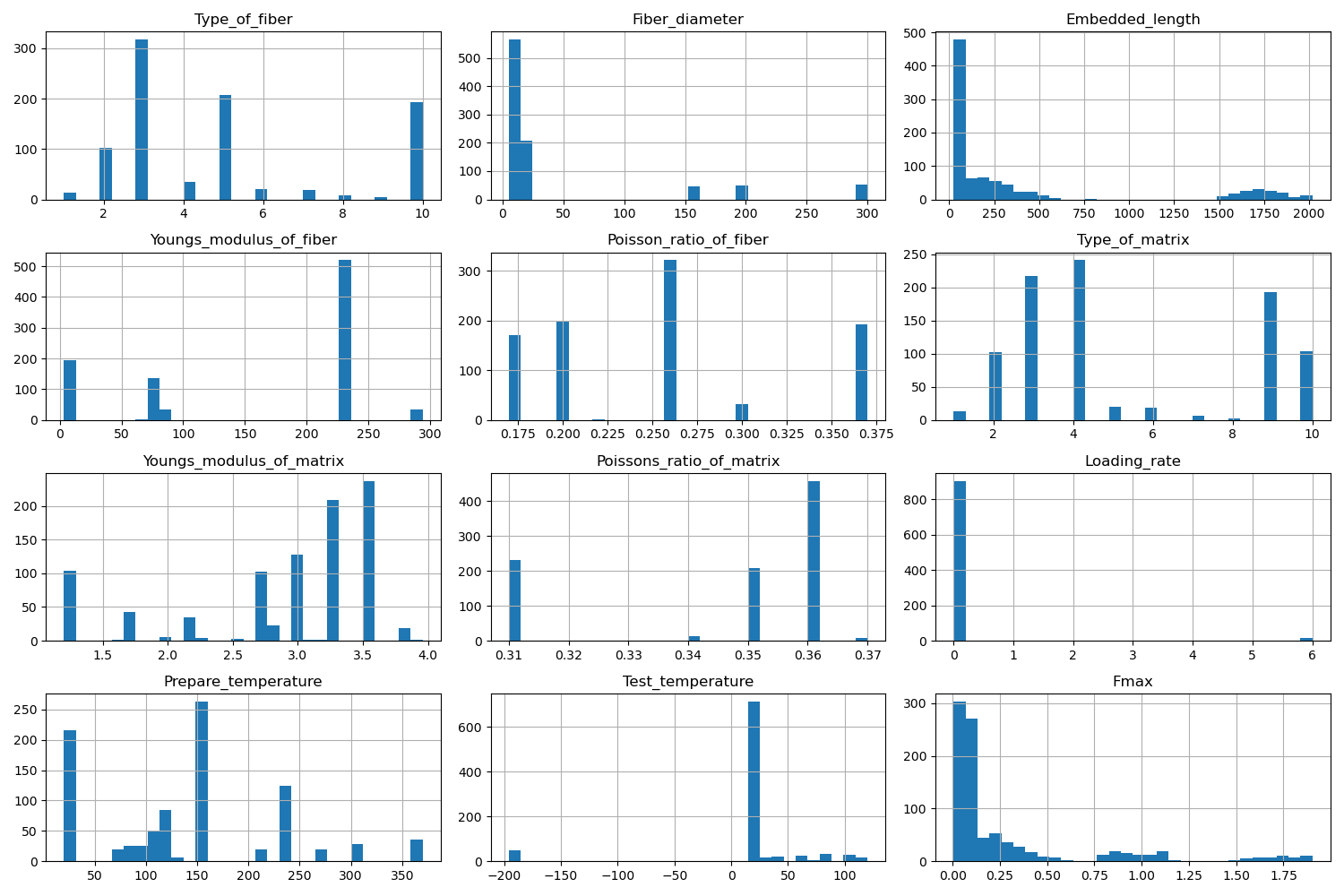
# Descriptive Statistics

Type\_of\_fiber Fiber\_diameter Embedded\_length Youngs\_modulus\_of\_fiber Poisson\_ratio\_of\_fiber Type\_of\_matrix Youngs\_modulus\_of\_matrix Poissons\_ratio\_of\_matrix Loading\_rate Prepare\_temperature Test\_temperature Fmax  
count 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000 918.000000  
mean 5.044662 43.853377 393.328649 156.120011 0.254662 5.324619 2.874815 0.344891 0.098755 138.776688 20.853595 0.296307  
std 2.859709 81.276812 599.030812 99.150546 0.069780 2.933517 0.755931 0.020811 0.707716 89.393127 56.887546 0.445418  
min 1.000000 5.000000 24.500000 3.390000 0.170000 1.000000 1.200000 0.310000 0.001700 20.000000 -196.000000 0.005000  
25% 3.000000 7.000000 63.125000 75.700000 0.200000 3.000000 2.740000 0.310000 0.010000 70.000000 25.000000 0.058000  
50% 4.000000 7.150000 82.150000 230.000000 0.260000 4.000000 3.259000 0.360000 0.014000 150.000000 25.000000 0.091000  
75% 6.000000 17.500000 329.400000 230.000000 0.260000 9.000000 3.500000 0.360000 0.020000 150.000000 25.000000 0.283500  
max 10.000000 300.000000 2018.000000 294.000000 0.370000 10.000000 3.960000 0.370000 6.000000 370.000000 120.000000 1.902000

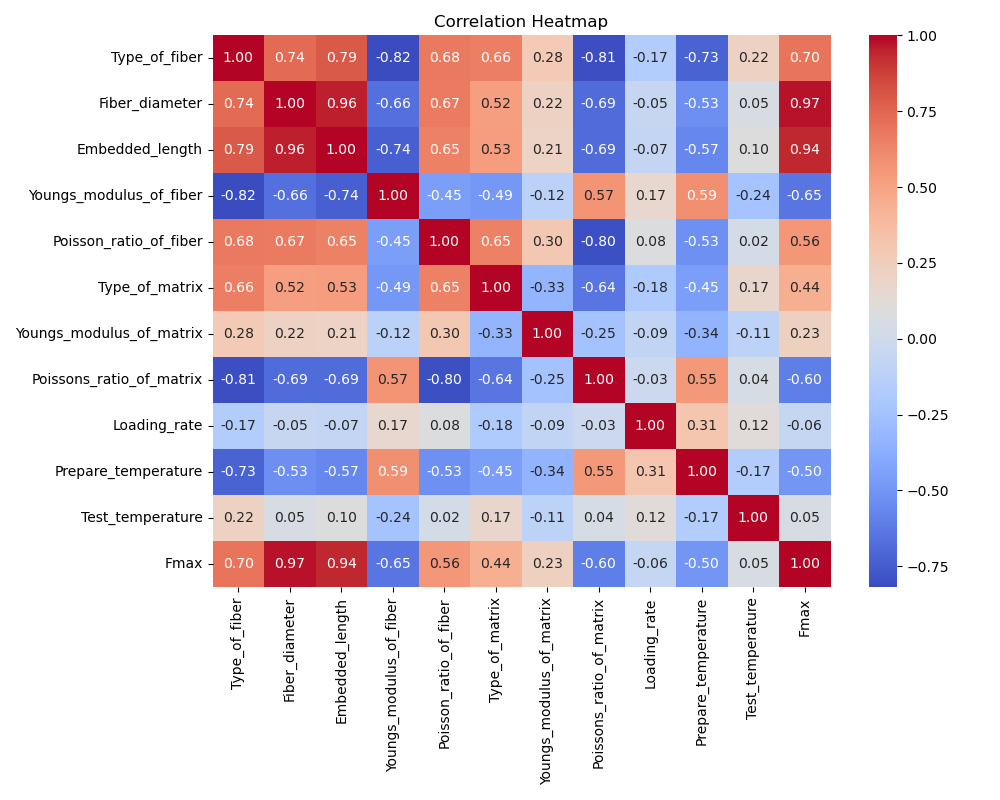
# Correlation Matrix

Type\_of\_fiber Fiber\_diameter Embedded\_length Youngs\_modulus\_of\_fiber Poisson\_ratio\_of\_fiber Type\_of\_matrix Youngs\_modulus\_of\_matrix Poissons\_ratio\_of\_matrix Loading\_rate Prepare\_temperature Test\_temperature Fmax  
Type\_of\_fiber 1.000000 0.735924 0.787492 -0.819545 0.677912 0.657725 0.277786 -0.811583 -0.168918 -0.726643 0.215901 0.699768  
Fiber\_diameter 0.735924 1.000000 0.955074 -0.663785 0.671532 0.519979 0.222253 -0.690456 -0.054370 -0.532707 0.049037 0.974912  
Embedded\_length 0.787492 0.955074 1.000000 -0.739683 0.645729 0.528400 0.209623 -0.691324 -0.068796 -0.566468 0.096892 0.942331  
Youngs\_modulus\_of\_fiber -0.819545 -0.663785 -0.739683 1.000000 -0.452996 -0.492180 -0.122530 0.573344 0.165941 0.593836 -0.240017 -0.646510  
Poisson\_ratio\_of\_fiber 0.677912 0.671532 0.645729 -0.452996 1.000000 0.650264 0.295014 -0.800622 0.080727 -0.527156 0.021820 0.555148  
Type\_of\_matrix 0.657725 0.519979 0.528400 -0.492180 0.650264 1.000000 -0.332143 -0.644276 -0.180319 -0.450664 0.173000 0.439046  
Youngs\_modulus\_of\_matrix 0.277786 0.222253 0.209623 -0.122530 0.295014 -0.332143 1.000000 -0.245114 -0.086607 -0.340928 -0.113226 0.232017  
Poissons\_ratio\_of\_matrix -0.811583 -0.690456 -0.691324 0.573344 -0.800622 -0.644276 -0.245114 1.000000 -0.027400 0.547352 0.041313 -0.604123  
Loading\_rate -0.168918 -0.054370 -0.068796 0.165941 0.080727 -0.180319 -0.086607 -0.027400 1.000000 0.307808 0.116011 -0.064408  
Prepare\_temperature -0.726643 -0.532707 -0.566468 0.593836 -0.527156 -0.450664 -0.340928 0.547352 0.307808 1.000000 -0.172095 -0.496981  
Test\_temperature 0.215901 0.049037 0.096892 -0.240017 0.021820 0.173000 -0.113226 0.041313 0.116011 -0.172095 1.000000 0.053161  
Fmax 0.699768 0.974912 0.942331 -0.646510 0.555148 0.439046 0.232017 -0.604123 -0.064408 -0.496981 0.053161 1.000000

# Histograms of Features



# Correlation Heatmap



# Feature Importances

