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  
IFSS 0

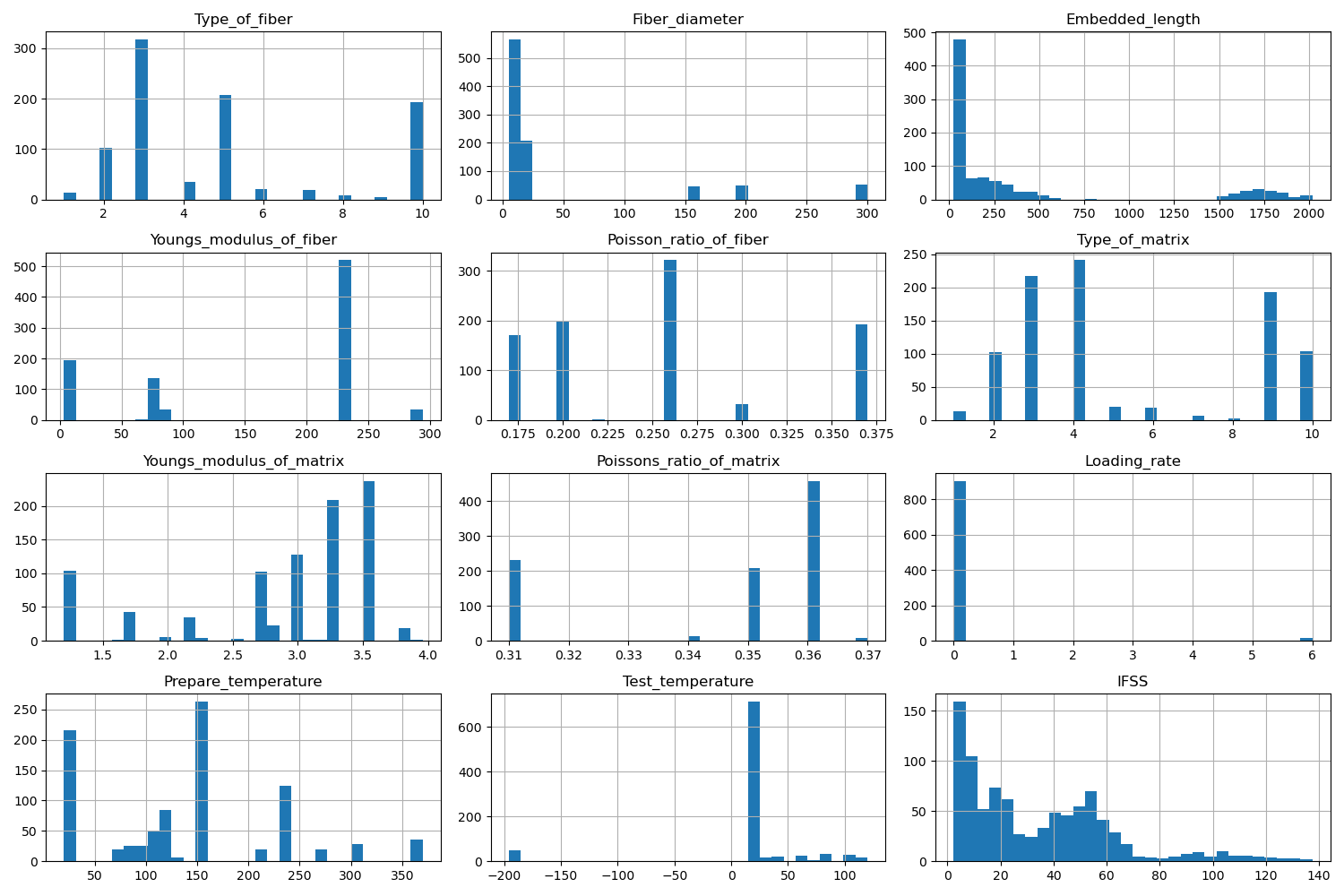
# Descriptive Statistics

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 IFSS  
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 34.109041  
std 2.859709 81.276812 599.030812 99.150546 0.069780 2.933517 0.755931 0.020811 0.707716 89.393127 56.887546 28.645963  
min 1.000000 5.000000 24.500000 3.390000 0.170000 1.000000 1.200000 0.310000 0.001700 20.000000 -196.000000 2.300000  
25% 3.000000 7.000000 63.125000 75.700000 0.200000 3.000000 2.740000 0.310000 0.010000 70.000000 25.000000 9.125000  
50% 4.000000 7.150000 82.150000 230.000000 0.260000 4.000000 3.259000 0.360000 0.014000 150.000000 25.000000 25.800000  
75% 6.000000 17.500000 329.400000 230.000000 0.260000 9.000000 3.500000 0.360000 0.020000 150.000000 25.000000 52.075000  
max 10.000000 300.000000 2018.000000 294.000000 0.370000 10.000000 3.960000 0.370000 6.000000 370.000000 120.000000 137.500000

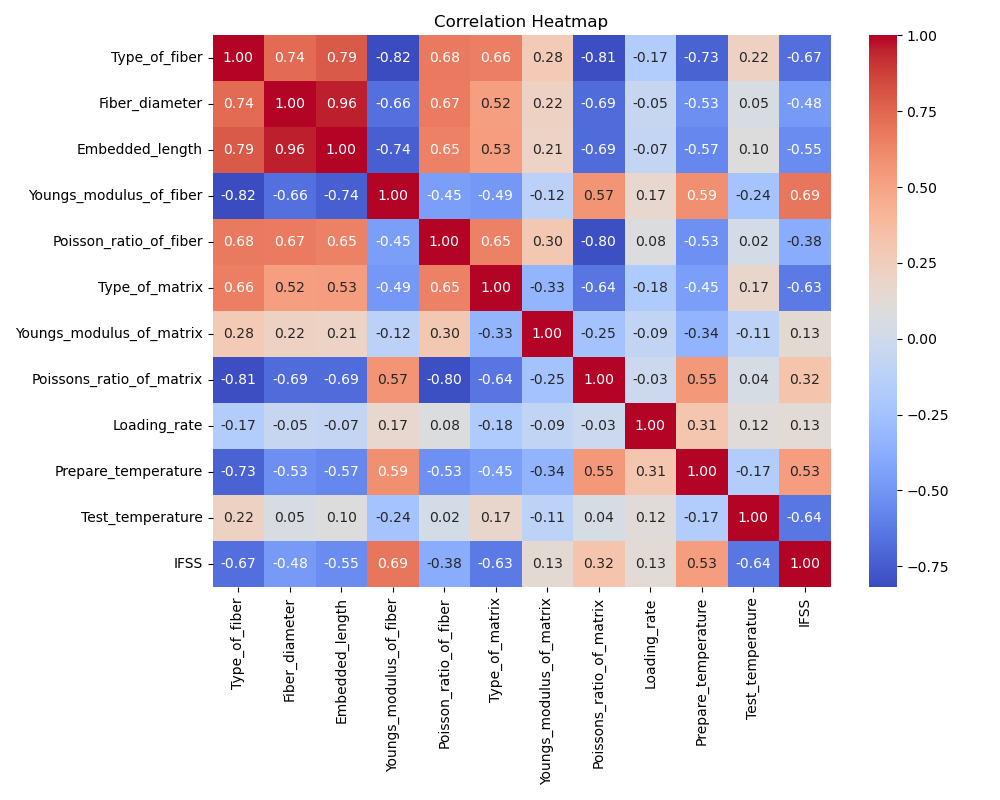
# Correlation Matrix

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 IFSS  
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 -0.674421  
Fiber\_diameter 0.735924 1.000000 0.955074 -0.663785 0.671532 0.519979 0.222253 -0.690456 -0.054370 -0.532707 0.049037 -0.475764  
Embedded\_length 0.787492 0.955074 1.000000 -0.739683 0.645729 0.528400 0.209623 -0.691324 -0.068796 -0.566468 0.096892 -0.549229  
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 0.689618  
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 -0.384262  
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 -0.626009  
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 0.134944  
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 0.318969  
Loading\_rate -0.168918 -0.054370 -0.068796 0.165941 0.080727 -0.180319 -0.086607 -0.027400 1.000000 0.307808 0.116011 0.132590  
Prepare\_temperature -0.726643 -0.532707 -0.566468 0.593836 -0.527156 -0.450664 -0.340928 0.547352 0.307808 1.000000 -0.172095 0.526085  
Test\_temperature 0.215901 0.049037 0.096892 -0.240017 0.021820 0.173000 -0.113226 0.041313 0.116011 -0.172095 1.000000 -0.641591  
IFSS -0.674421 -0.475764 -0.549229 0.689618 -0.384262 -0.626009 0.134944 0.318969 0.132590 0.526085 -0.641591 1.000000

# Histograms of Features



# Correlation Heatmap



# Feature Importances

