

Welding Filler Metal Selection

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Website: www.esabna.com

ARC GOUGING (CAC-A) & EXOTHERMIC CUTTING

WELDING AUTOMATION & ROBOTICS

GAS EQUIPMENT

FILLER METALS

ARC WELDING EQUIPMENT

PLASMA

CUTTING AUTOMATION

STEEL INDUSTRY PRODUCTS

PPE & ACCESSORIES

SELF-SHIELDED FLUX-CORED WIRES (FCAW)

METAL-CORED WIRES (MCAW)

TIG RODS (GTAW)

MIG/MAG WIRES (GMAW)

SUBMERGED ARC WIRES & FLUXES (SAW)

ALL PRODUCTS

HARDFACING WIRES

MILD STEEL WIRES

STAINLESS STEEL WIRES



INQUIRE ABOUT THIS PRODUCT

CORESHIELD 6

OVERVIEW

DOCUMENTS AND SPECS

ORDERING INFORMATION



Typical Tensile Properties

Condition	Elongation	Tensile Strength	Yield Strength
As Welded	26 %	85 ksi	67 ksi

Typical Charpy V-Notch Properties

Condition	Impact Value	Testing Temperature
As Welded	31 ft-lb	-20 °F

Typical Weld Metal Analysis %

ELEMENTVALUES

Web Scrapping Data

Semi-Structured Data:

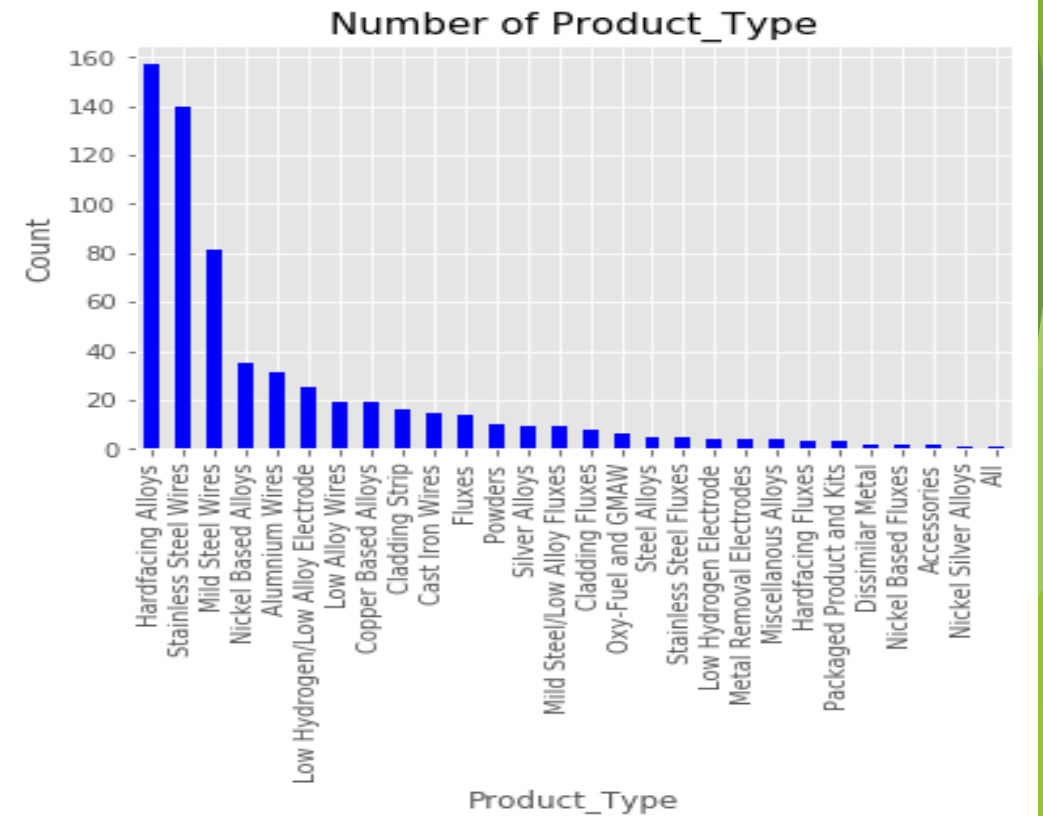
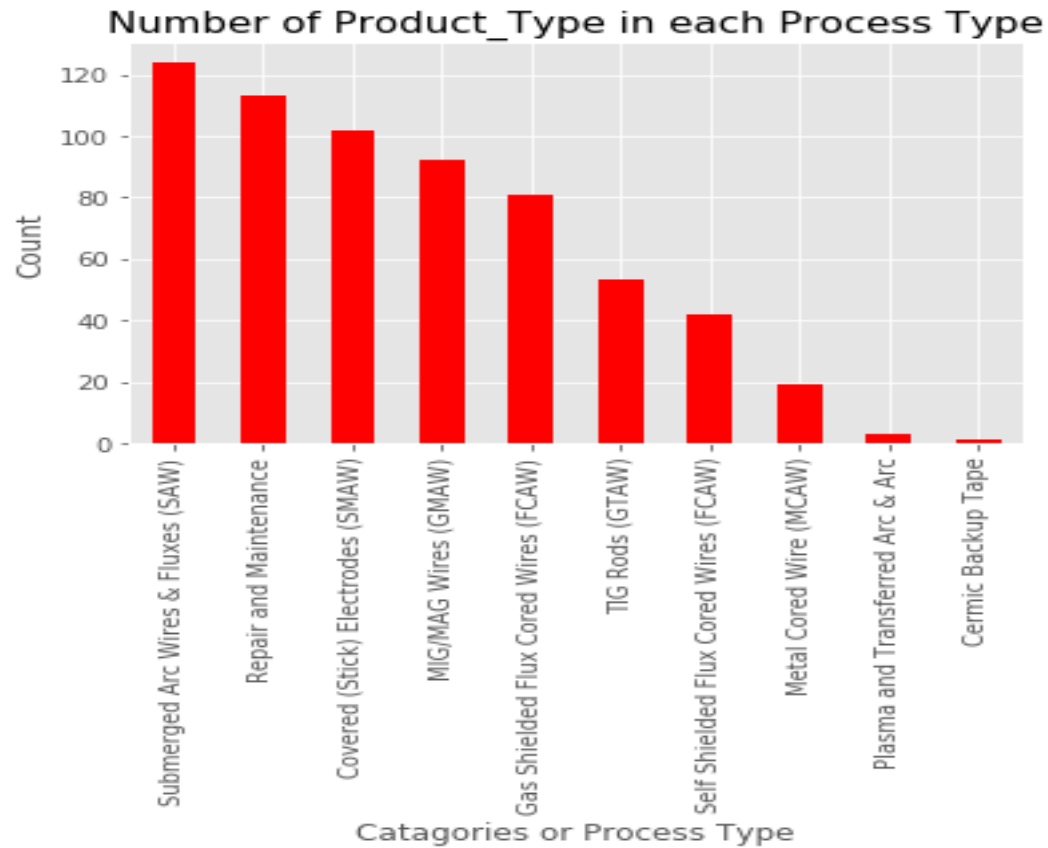
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array([[ 'TIG Rods (GTAW)', 'Low Alloy Wires',  
       'Tigrod ER90S-B9 is a solid wire for TIG welding of creep resisting, modified 9% chromium steels, such as ASTM A335 Gra  
de P91 or ASTM A213 T91. Tigrod products are embossed on opposite ends (E2) with the alloy identification.',  
       ...,  
       'Pipeline,Power Generation,Process,Petrochemical,Welding-GTAW (TIG - Tungsten Inert Gas )',  
       'Typical Tensile Properties,Condition,Elongation,Stress Relieved Temperature,Stress Relieved Testing Time,Tensile Stren  
gth,Yield Strength,Typical Weld Metal Analysis %,Mn,X-Factor,Mo,C,Al,N,Sb,Cr,P,Cu,S,Nb,V,Si,Ni,Classifications: ',  
       'Stress Relieved,27 %,1275 °F,1 hr,94 ksi,80 ksi,Stress Relieved,25 %,1300 °F,1 hr,93 ksi,76 ksi,0.60 %,< 15 %,0.90 %,  
0.10 %,max 0.015 %,0.040-0.070 %,30 PPM max %,2.40 %,0.01 %,max 0.10 %,0.01 %,0.030-0.050 %,0.18-0.25 %,0.50 %,max 0.50 %,ASME  
SFA 5.28; AWS A5.28; ER90S-B9'], ...])
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Product_ID	Catagories	Product_Type	Product_Description	headings	Industries_WeldingProcess	Elements	Values
TIGROD,ER90S-B9	TIG Rods (GTAW)	Low Alloy Wires	Tigrod ER90S-B9 is a solid wire for TIG weldin...	Industries,Welding Process	Pipeline,Power Generation,Process,Petrochemica...	Typical Tensile Properties,Condition,Elongatio...	Stress Relieved,27 %,1275 °F,1 hr,94 ksi,80 ks...
TIGROD,ER90S-B3	TIG Rods (GTAW)	Low Alloy Wires	Tigrod ER90S-B3 is a Chrome-Moly TIG rod used ...	Industries,Welding Process	Process,Petrochemical,Power Generation,Welding...	Typical Tensile Properties,Condition,Elongatio...	Stress Relieved,27 %,1275 °F,1 hr,94 ksi,79 ks...
TIGROD,ER80S-B8	TIG Rods (GTAW)	Low Alloy Wires	ER80S-B8 is a non-copper-coated solid wire for...	Industries,Welding Process	Power Generation,Welding-GTAW (TIG - Tungsten ...	Typical Tensile Properties,Condition,Elongatio...	Stress Relieved,24 %,1375 °F,1 hr,97 ksi,78 ks...

- DataFrame (Shape)= 631 rows × 8 columns

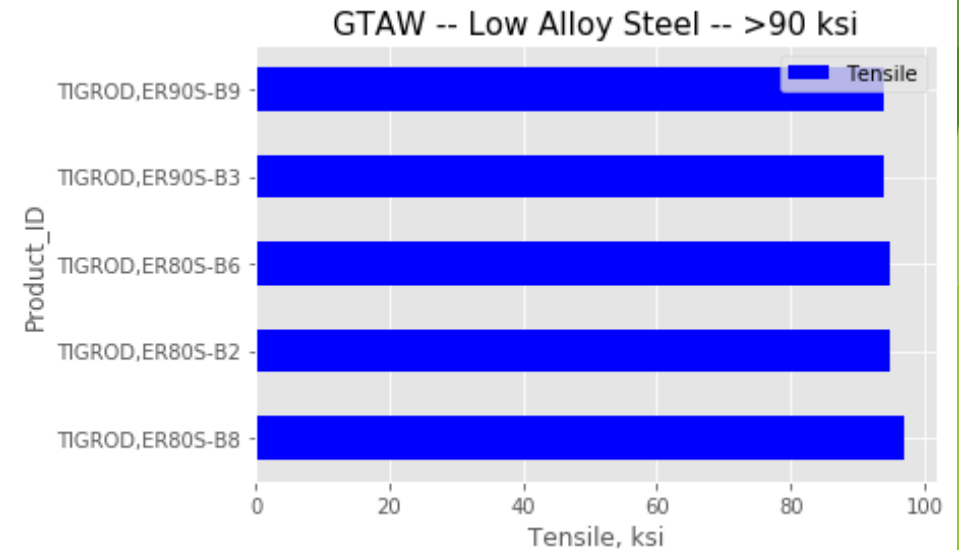
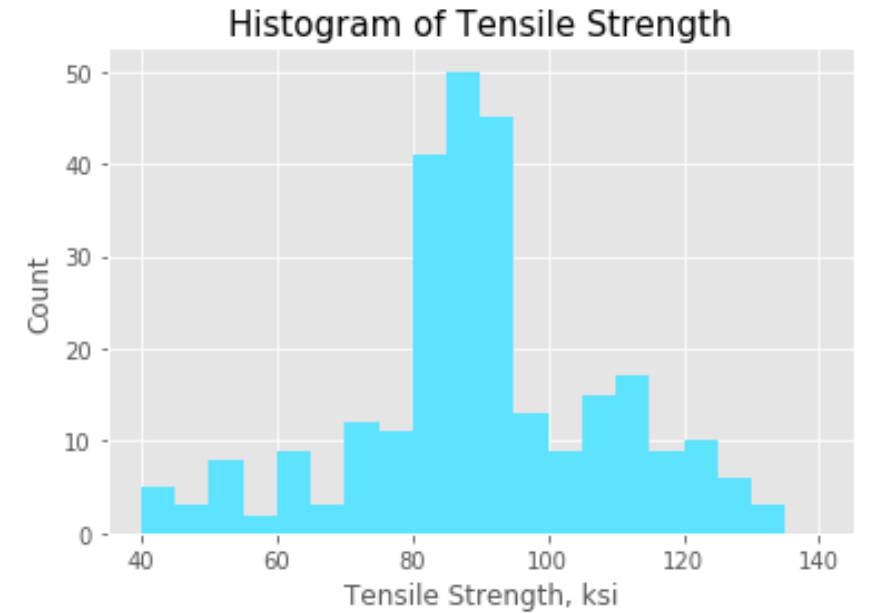
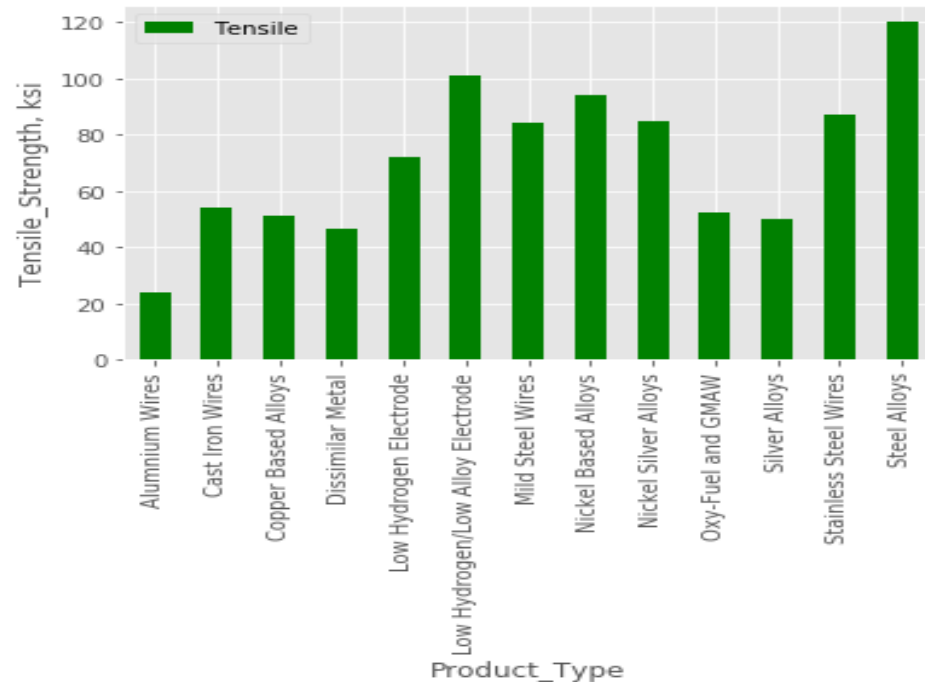
Data Analysis

- Plots show number of products in each process type and product type.



Data Analysis

- Tensile strength of larger products between 80 to 95ksi.
- Bar chart shows median tensile strength of each product type.
- Horizontal bar chart shows available welding wires for GTAW process for welding low alloy steel above 90ksi tensile strength.



Summary

- ▶ Web scraped welding filler metal products data from www.esabna.com.
- ▶ Performed data manipulation using panda dataframe and different methods (i.e. Regular Expression, mapping, handling missing values, grouping and aggregation).
- ▶ Data analysis revealed number of filler metal available for specific process type, welding metal grade and tensile strength range.