

```
path := "C:\Users\Terry\Downloads\"
file := "210524-Materials.xlsx"
numGrades := [ 63
               20
               23
               29 ]
```

```
sheets := [ 1 "Aluminum"
            2 "Alloy Steel"
            3 "CRES"
            4 "Titanium" ]
chooseMaterial := 3
```

```
sheet := sheets
           chooseMaterial - 1, 1
sheet = "CRES"
```

```
postfix := "!A2:A"
```

```
size := numGrades
           chooseMaterial - 1
```

```
names := READEXCEL (concat (path, file), concat (sheet, postfix, num2str (size + 1)))
```

```
i := 1 .. size
indexi-1 := i
```

```
Material := augment (index, names)
```

```
Material = [
  :
  11 "17-4 H1150 Bar per AMS 5643 (125ksi) <8\""
  12 "Custom 465 H950 Bar per AMS 5936 <12\""
  13 "Custom 465 H1000 Bar per AMS 5936 <12\""
  14 "MLX17 H950 Bar or Forging per AMS 5937 <12\""
  15 "MLX17 H1000 Bar or Forging per AMS 5937 <12\""
  16 "15-5 H1100 Bar per AMS 5659 (140ksi) <12\""
  17 "17-7PH CH900 Wire per AMS 5678"
  18 "302 CRES Wire per AMS 5636"
  19 "Custom 455 H1000 Bar per AMS 5617 <8\""
  :
]
```

```
chooseGrade := 15
```

```
grade := Material
           chooseGrade - 1, 1
grade = "MLX17 H1000 Bar or Forging per AMS 5937 <12\""
```

```
props1 := "D"
props2 := "X"
myRow := chooseGrade + 1
```

```
reference := concat (sheet, props1, num2str (myRow), props2, num2str (myRow))
```

```
properties := READEXCEL (concat (path, file), reference)
```

```
properties = [ 220 220 220 200 200 200 211 214 214 132 2.8 · 104 2.9 · 104 ... ]
```