



Selection of Gear Materials



Introduction

- ✦ Selection Factors
- ✦ BHN and Carbon Content
- ✦ Typical Applications
- ✦ Conclusion



Selection Factors

- ✦ Strength

- ✦ Durability

- ✦ Toughness

- ✦ Wear resistance

- ✦ Finish

- ✦ Fatigue

BHN and Carbon Content

$$\text{BHN}_{\text{max}} = 900 * C^{(.45)}$$

SAE/ASIS Number	Max BHN
1020	436
1040	595
1050	628

BHN and Carbon Content

$$S_{ut} = 500 * BHN$$

Please See Figure 1 in the handout

Typical Applications

- ✦ Figure 2 in Handout
- ✦ Figure 3 in Handout

Conclusion

- ✦ Summary
- ✦ Other Considerations
- ✦ Good Gear Websites

1. www.globegear.com
2. www.sdp-si.com