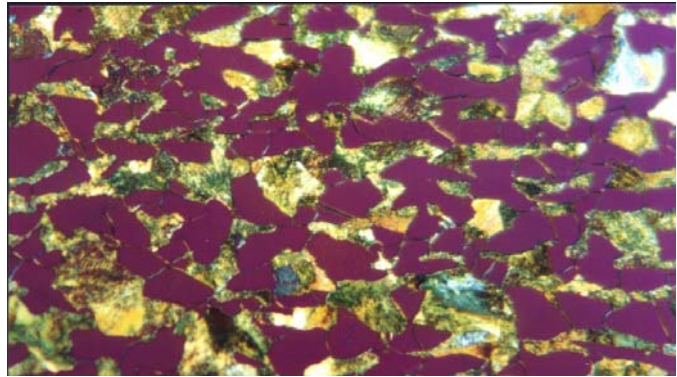


**Material** : AISI 1040 (Carbon Steel)

**Method No.** : Carbon High

**Results**

The microstructural analysis of AISI 1040 which is a widely used steel, is quite straight forward. Microstructure consists of evenly distributed pearlitic and ferritic areas. Grain boundaries are visible. In case inclusion rating will be made, it is recommended to use higher force on the sample during mechanical preparation.



**AISI 1040**  
 Ferritic - Pearlitic microstructure, polarized light.  
 Magnification: 400X Etching: 2% Nital

**Preparation Method:**

**Cutting:** Abrasive Cut-off machine with Metlab RC-35 Abrasive wheel

**Mounting:** Mounting Press with Phenolic Powder

**Mechanical Preparation:** FORCIPOL Grinding / Polishing Machine + FORCIMAT Automatic Specimen Mover.

Steps	Surface	Abrasive	Lubricant	Force per Sample, (N)/(PSI)	Time min.	Disc Speed, rpm	Relative Rotation
1	S/C Paper Disc	180 Grit	Water	25/5	2 min. or until plane	300	Contra
2	S/C Paper Disc	400 Grit	Water	25/5	2	300	Contra
3	S/C Paper Disc	800 Grit	Water	25/5	2	300	Contra
4	Dia-Plus Cloth	6 $\mu$ Diamond Suspension	Blue Lube	20/4	3	150	Contra
5	Metlab Cloth	1 $\mu$ Diamond Suspension	Blue Lube	20/4	3	150	Contra

**FOR MORE DETAILED INFORMATION PLEASE REFER TO METLAB PRICE LIST**