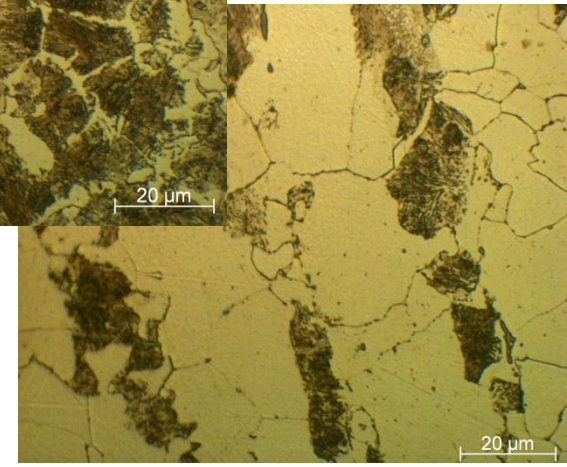
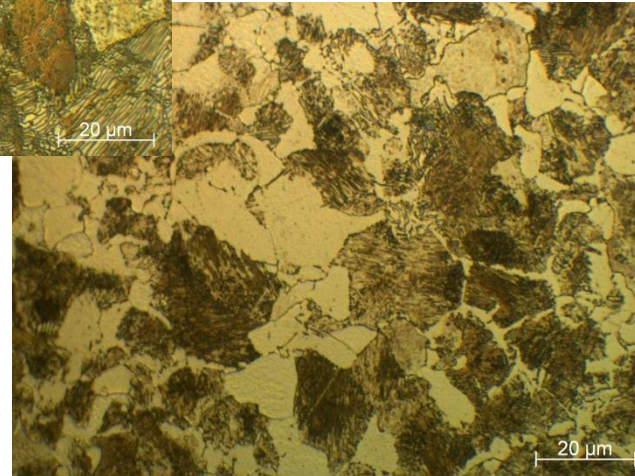
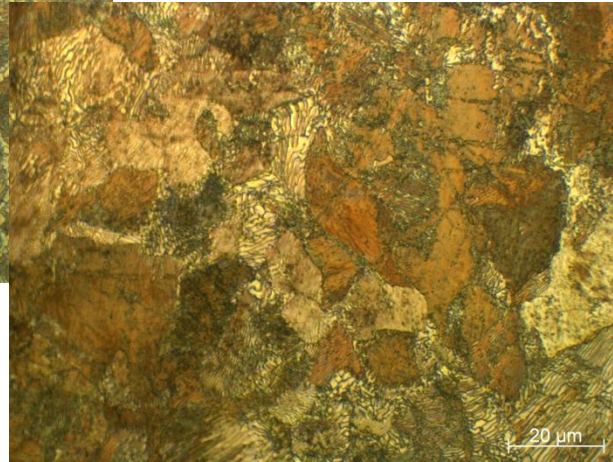
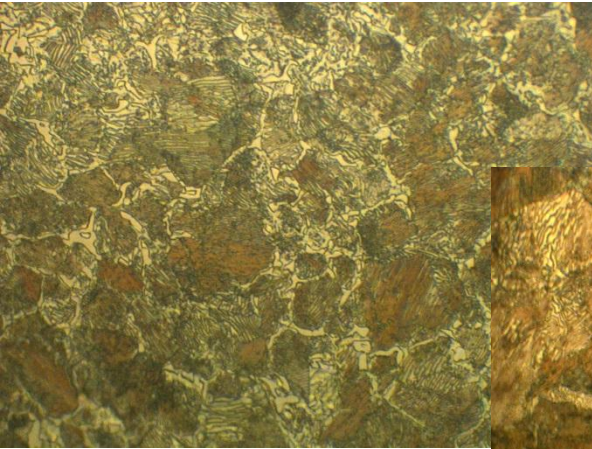


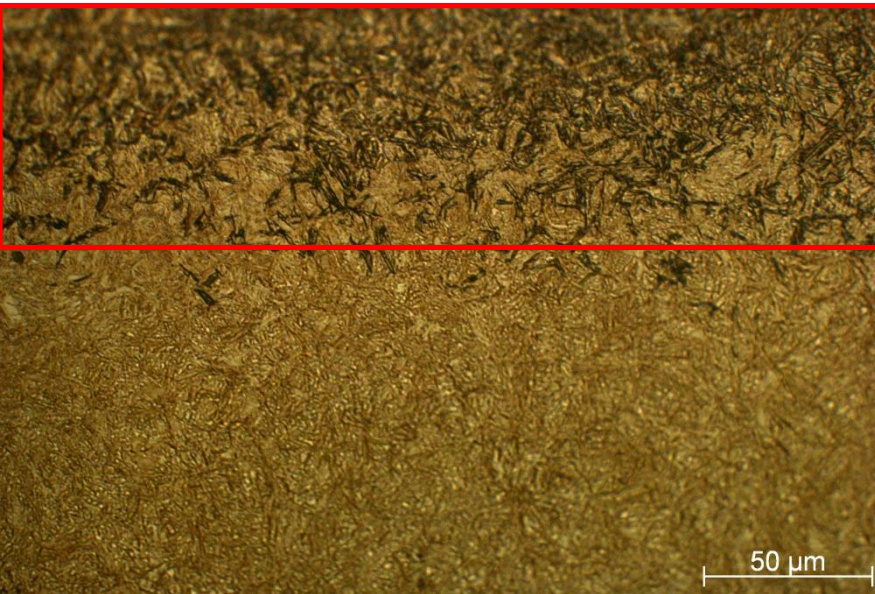
CARBURIZING, NITRIDING

Silesian University of Technology

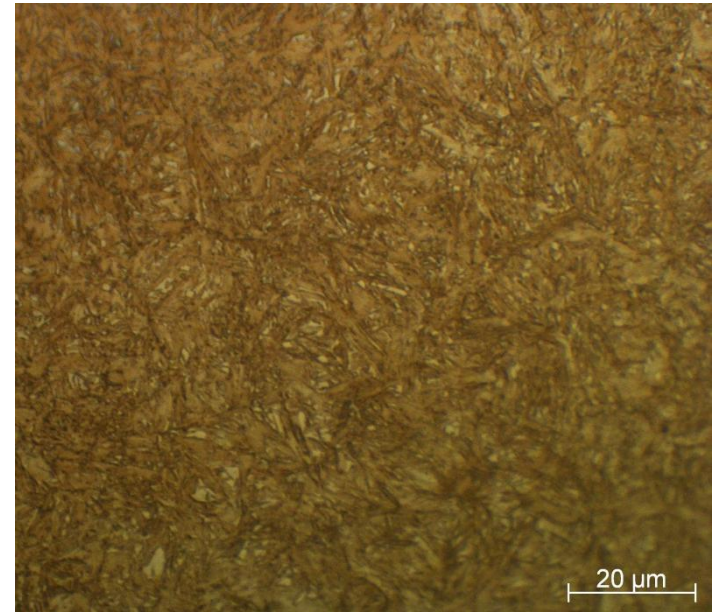
MICROSTRUCTURES FROM THE TOP OF THE SURFACE TO THE CORE
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ COOLING IN FURNACE/ MATERIAL 16MnCr5



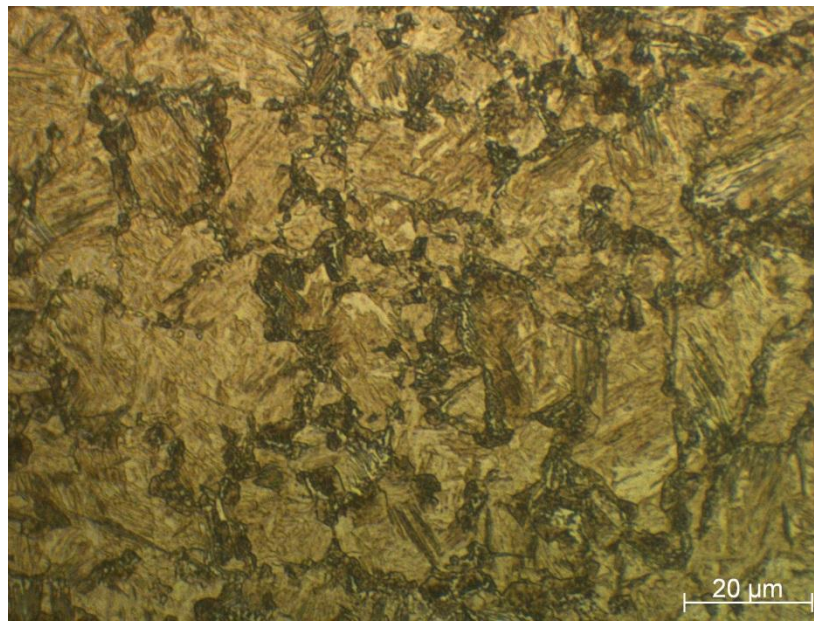
MICROSTRUCTURES FROM THE TOP OF THE SURFACE TO THE CORE
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ COOLING IN WATER/ MATERIAL C15



SURFACE DECARBURIZING

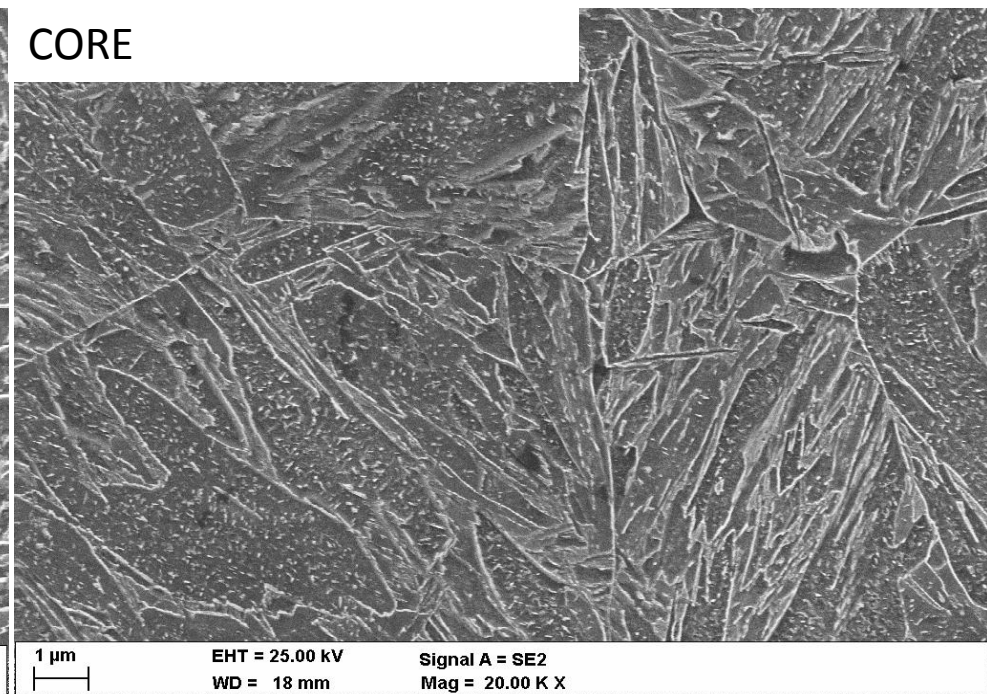
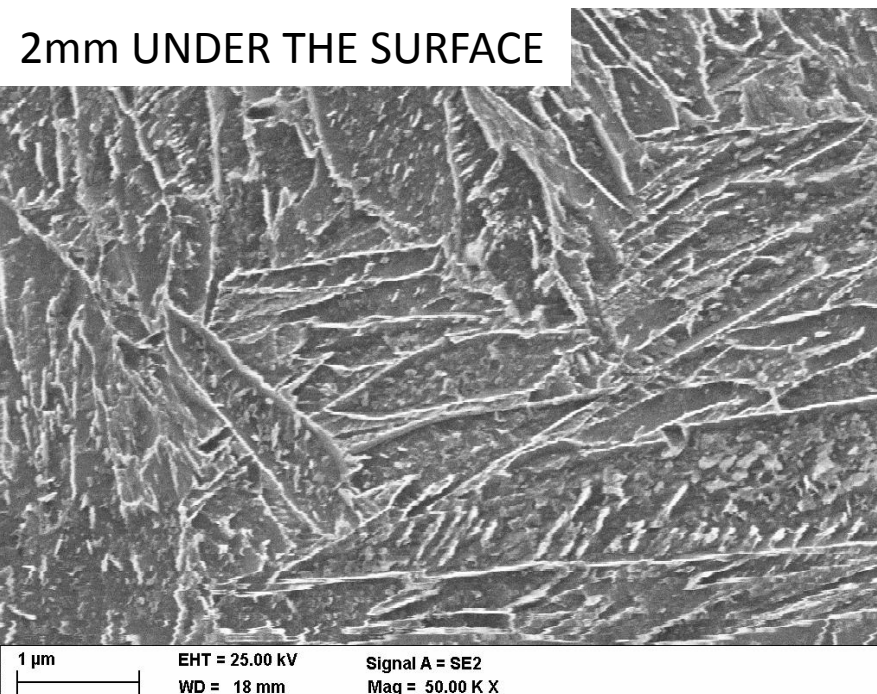
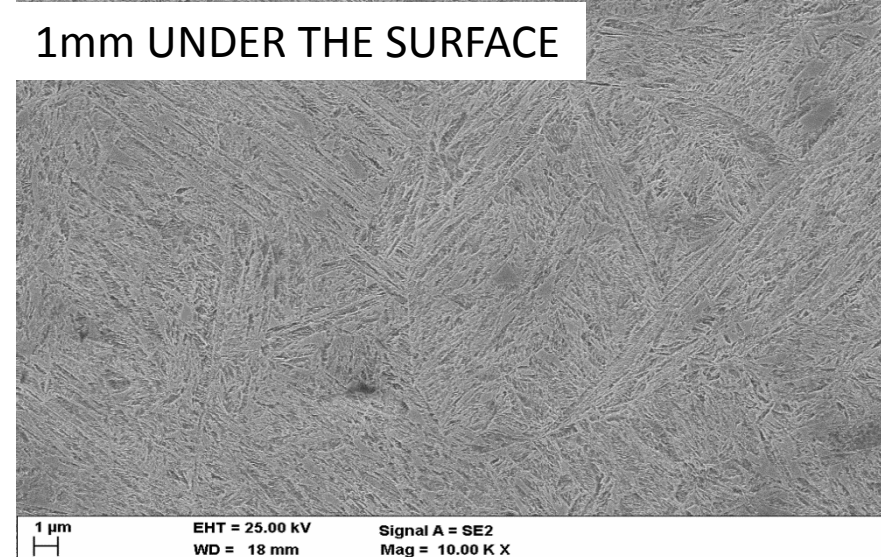
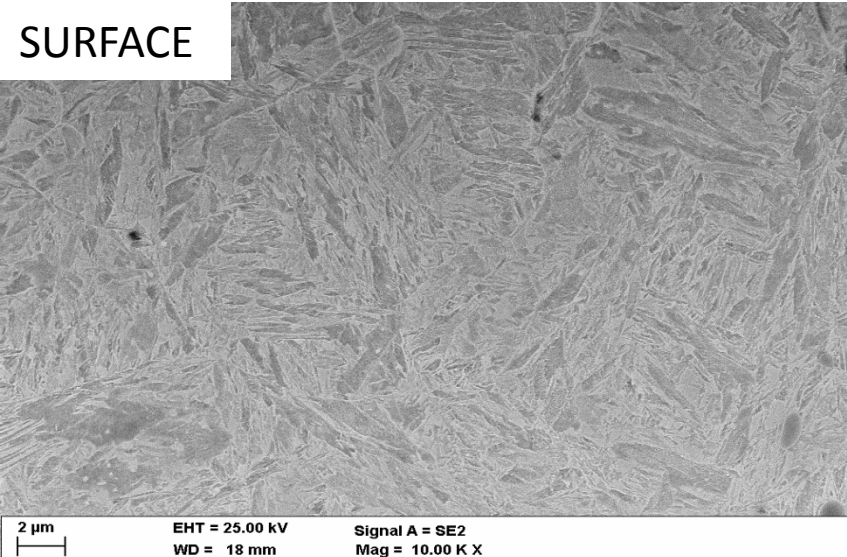


CASE

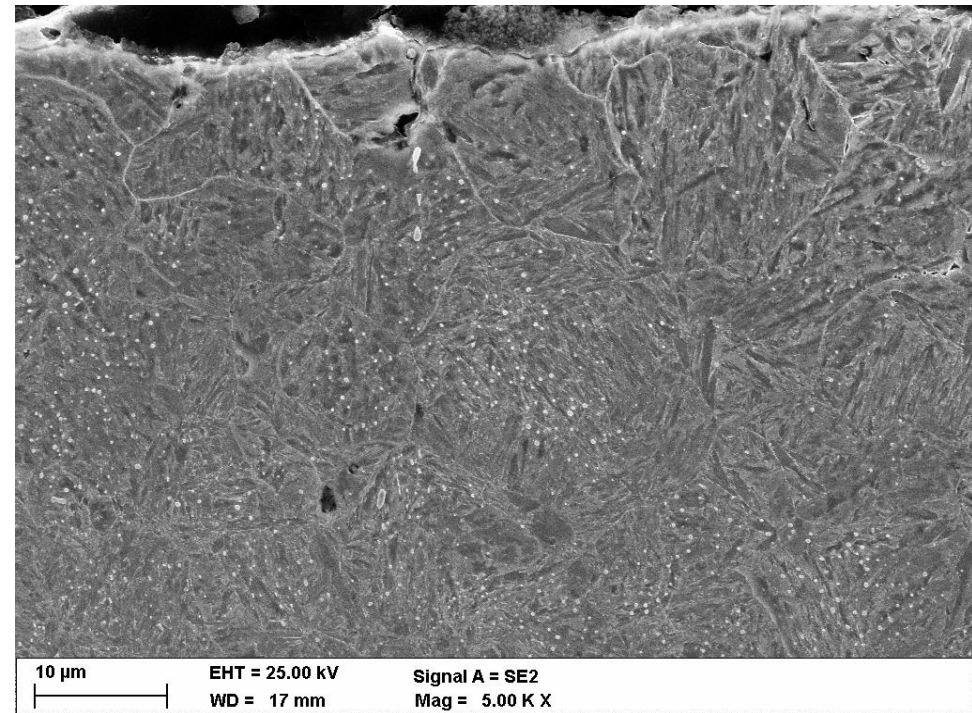
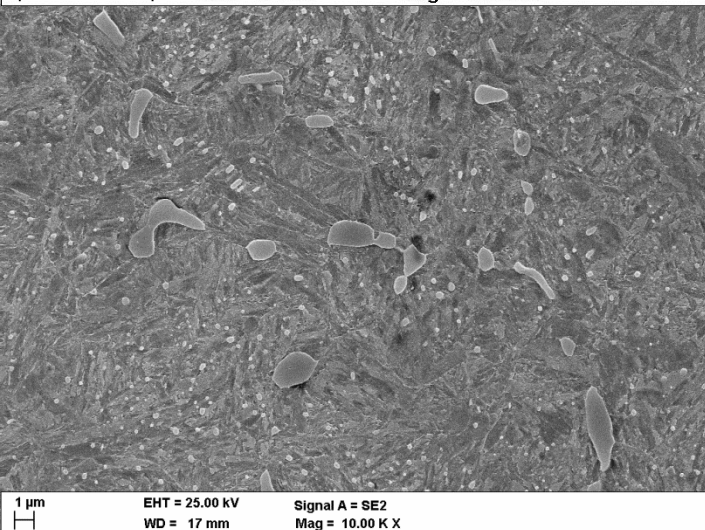
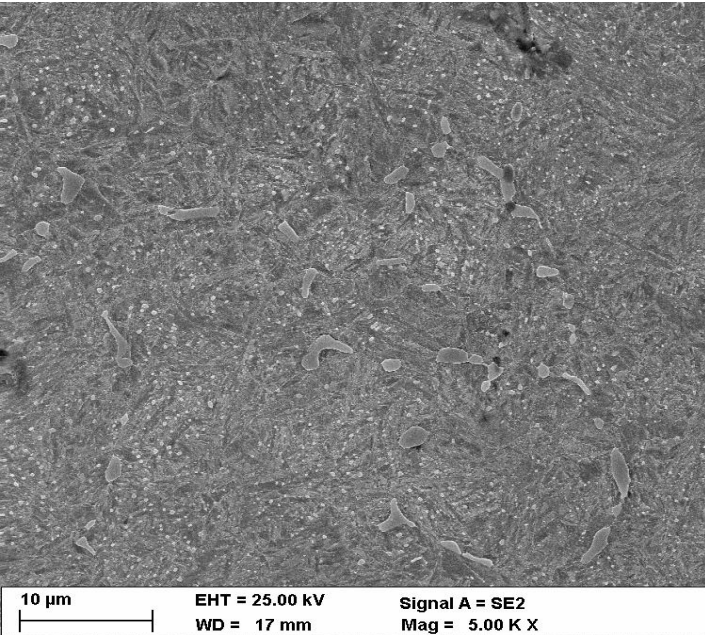


CORE

MICROSTRUCTURES FROM THE TOP OF THE SURFACE TO THE CORE
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ COOLING IN OIL/ MATERIAL 18CrNiMo7-6



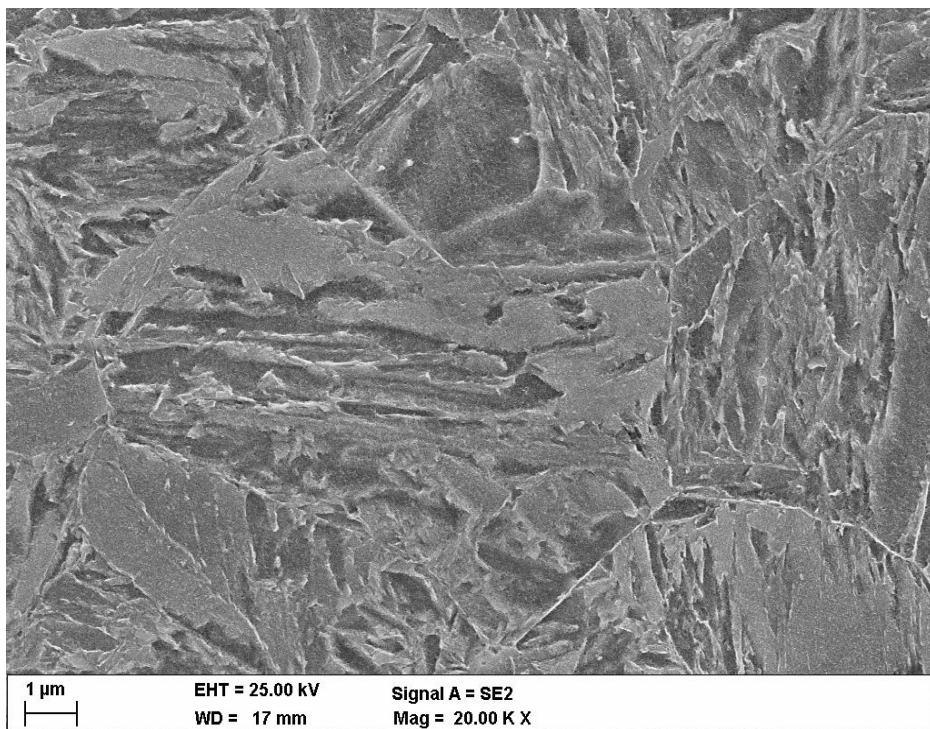
MICROSTRUCTURES FROM THE TOP OF THE SURFACE TO THE CORE
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ COOLING IN OIL/ MATERIAL 16MnCr5



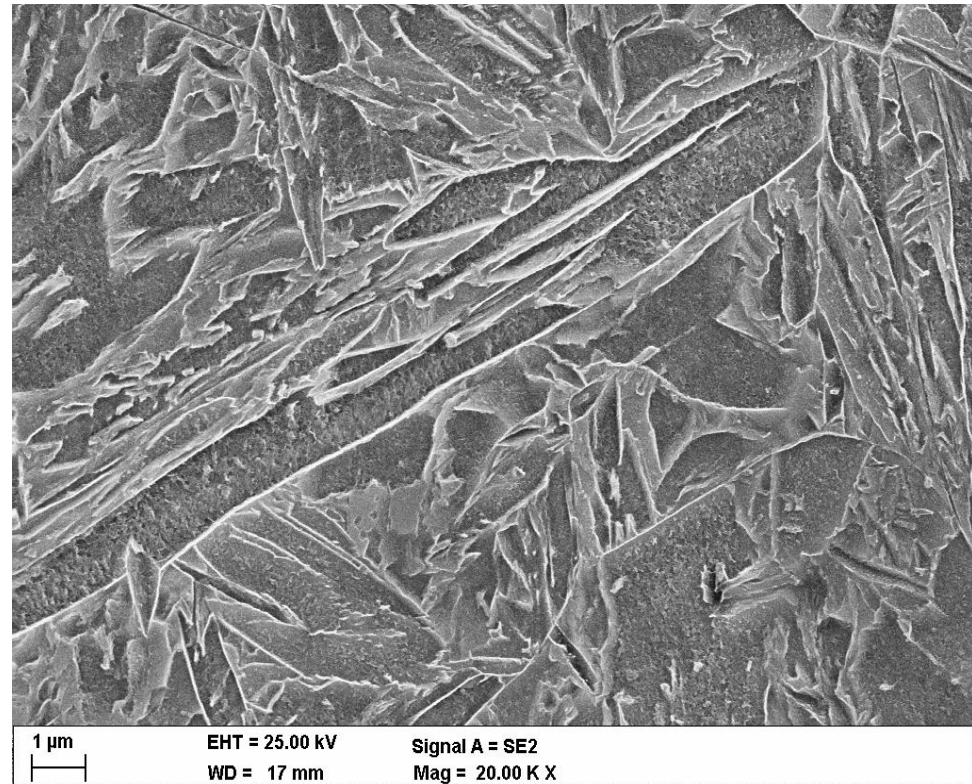
INTERNAL OXIDATION

**HYPEREUTECTOID CONCENTRATION OF
CARBON ON THE SURFACE**

MICROSTRUCTURES FROM THE TOP OF THE SURFACE TO THE CORE
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ COOLING IN OIL/ MATERIAL 16MnCr5



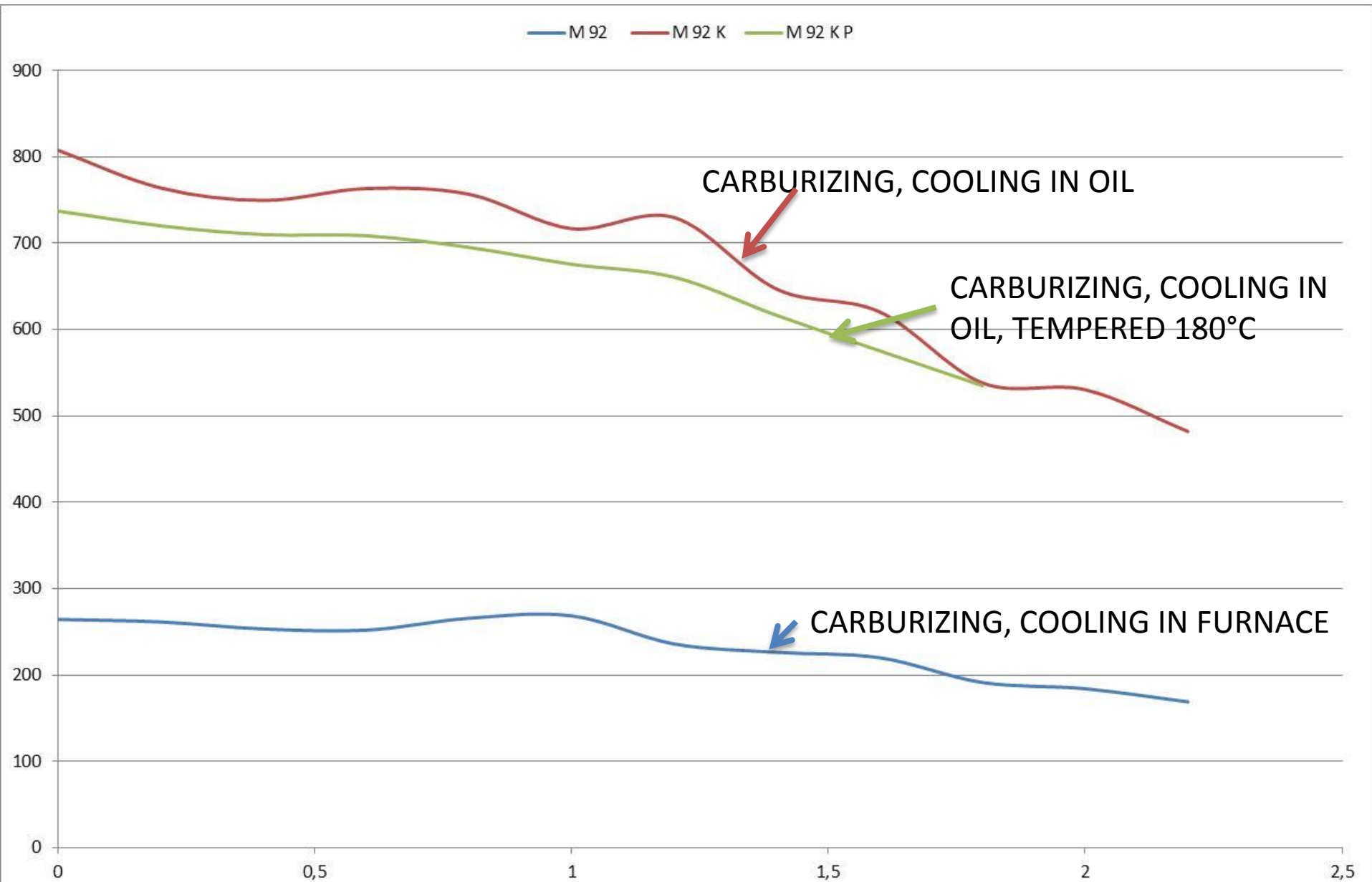
1,8mm UNDER THE SURFACE



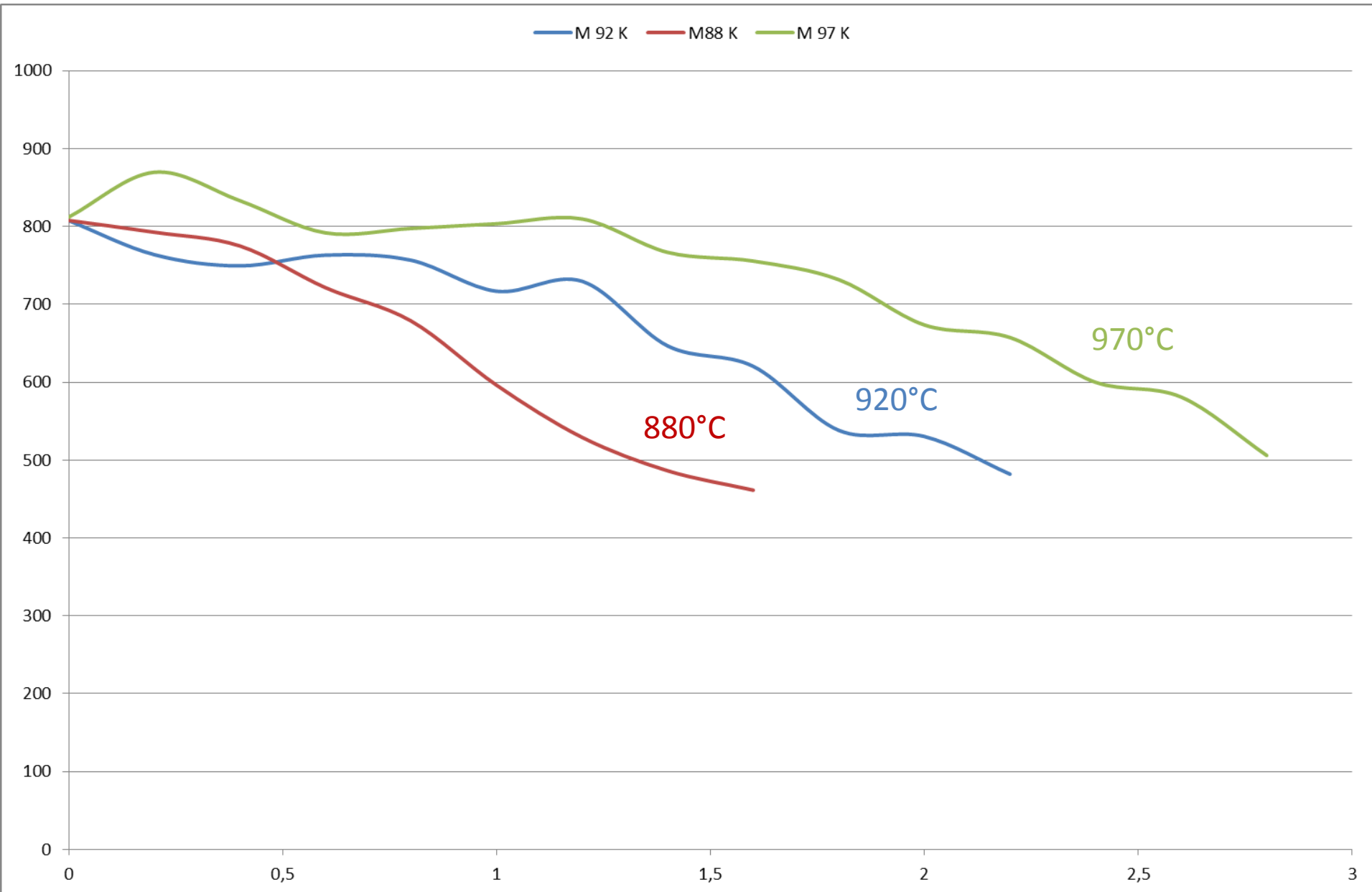
CORE

HARDNES VICKERS

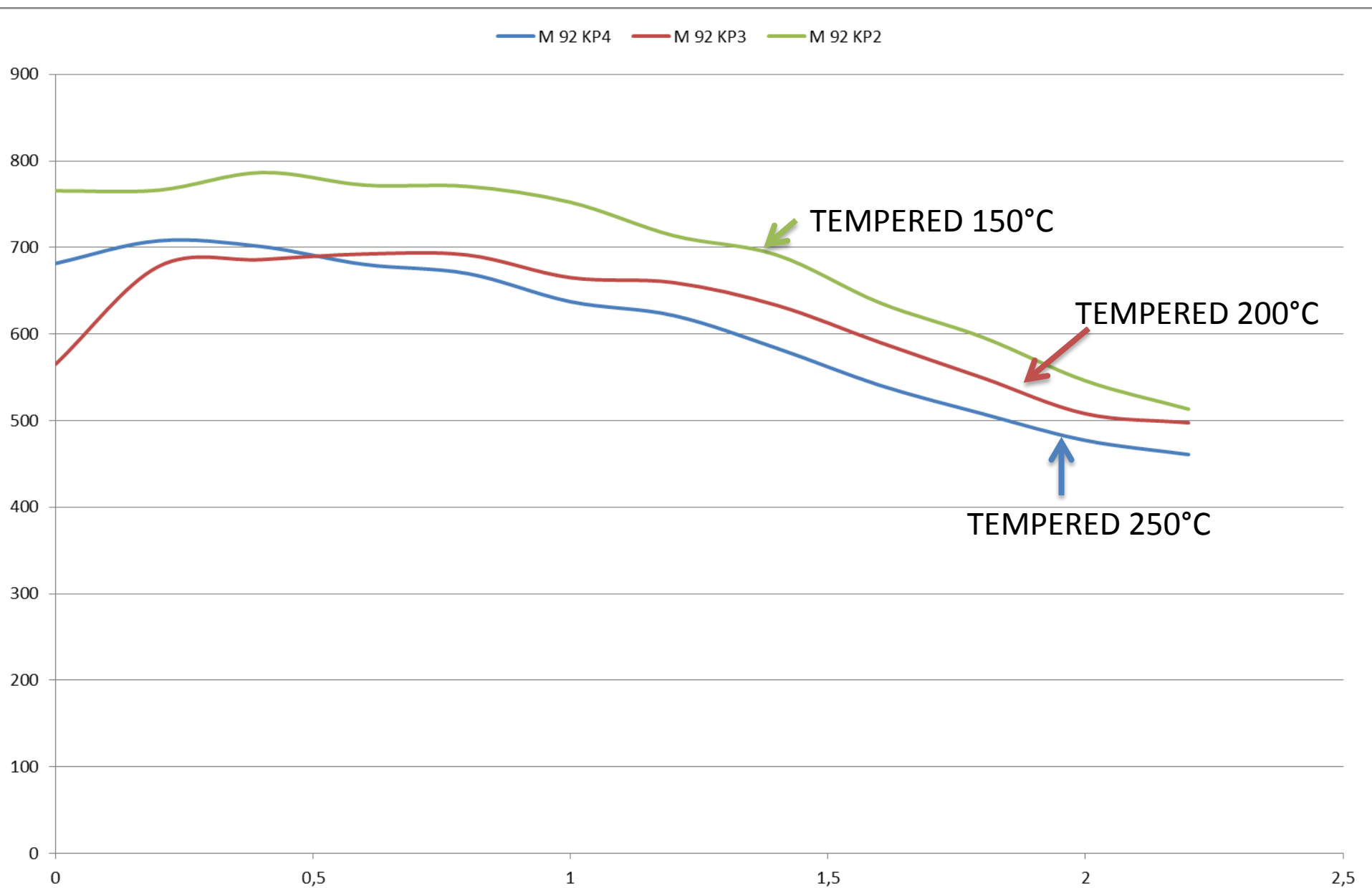
CARBURIZING TEMPERATURE 920°C/ 12 HOURS/ MATERIAL 16MnCr5



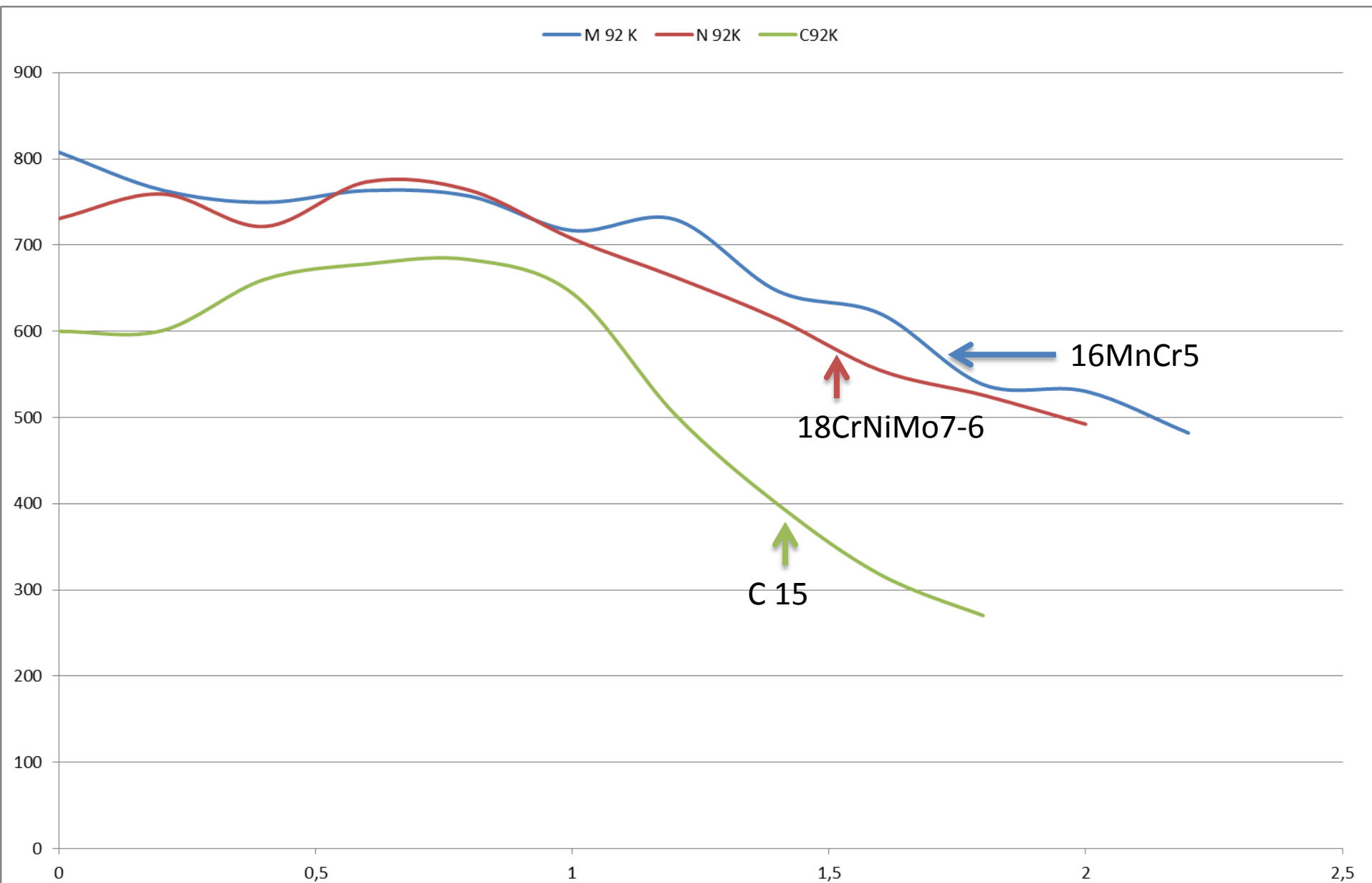
INFULENCE OF CARBURIZING TEMPERATURE ON HARDNESS 880°C/920°C/ 970°C/12 HOURS/ COOLING IN OIL/ WITHOUT TEMPERING/MATERIAL 16MnCr5



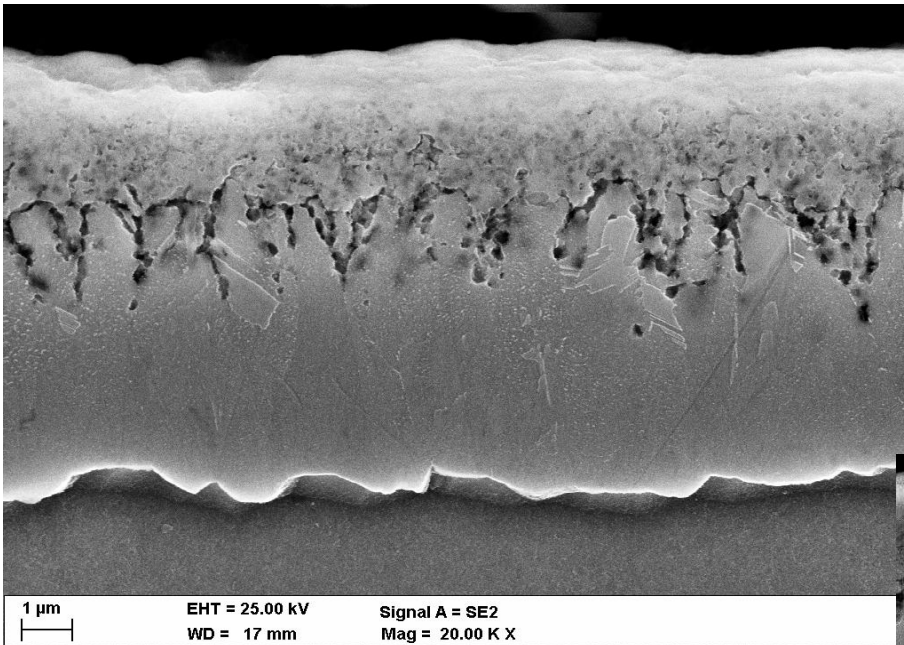
INFULENCE OF TEMPERING TEMPERATURE ON HARDNESS CARBURIZING 920°C/12 HOURS/ COOLING IN OIL/ TEMPERING TEMPERATURE 150°C/200°C/250°C/MATERIAL 16MnCr5



INFULENCE OF CHEMICAL COMPOSITION ON HARDNESS - CARBURIZING 920°C/12 HOURS/ COOLING IN WATER/ MATERIAL 16MnCr5/ C 15/ 18CrNiMo7-6

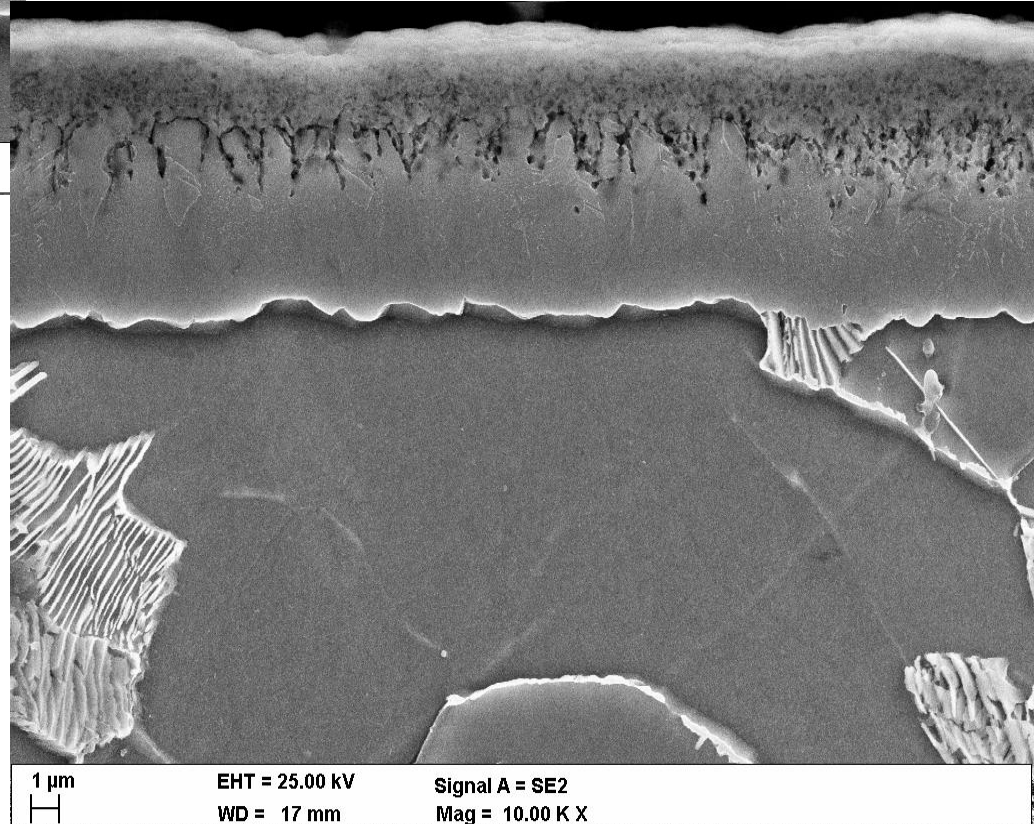


NITRIDING 520°C/24HOURS/ MATERIAL

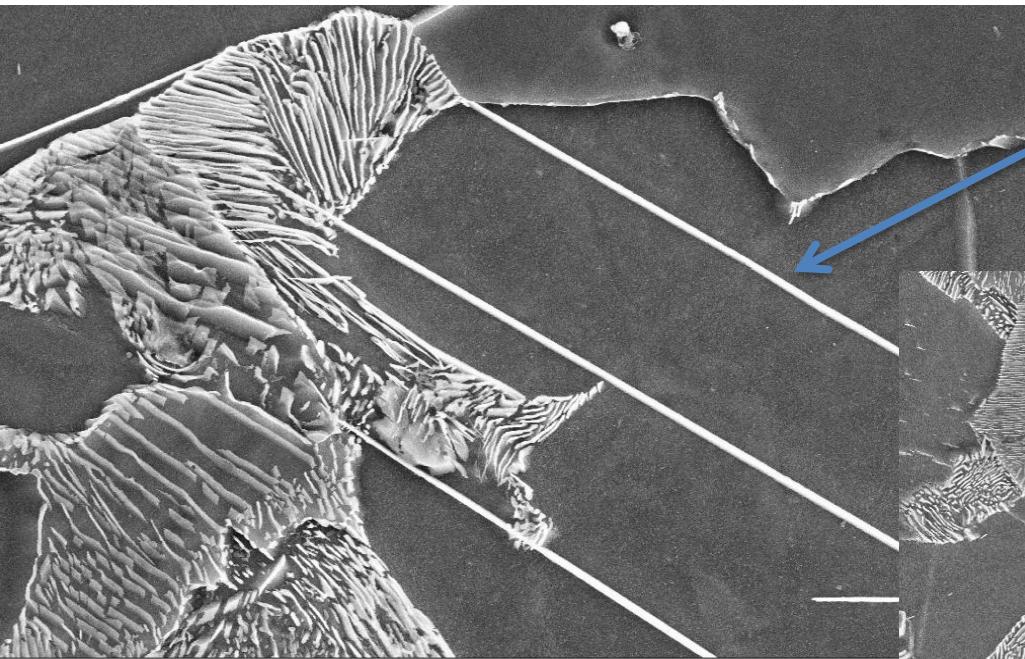


COMPOUND LAYER

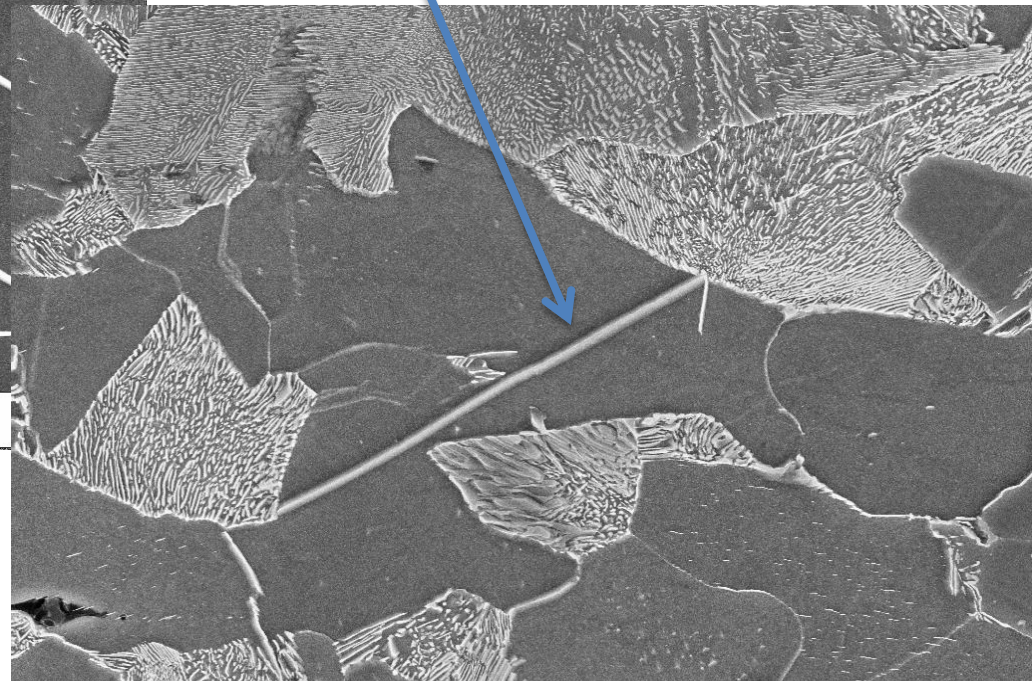
COMPOUND LAYER



NITRIDING 520°C/24HOURS/ MATERIAL - C 45



1 μ m
EHT = 25.00 kV
WD = 17 mm
Signal A = SE2
Mag = 10.00 K X



10 μ m
EHT = 25.00 kV
WD = 17 mm
Signal A = SE2
Mag = 5.00 K X

LABORATORIES

LM education
laboratory



Chemical etching



Hall



Classroom for practical
education



GDOES



LABORATORIES



LABORATORIES

Samples preparation



Corrosion chamber, digester



Hall



Lobby

