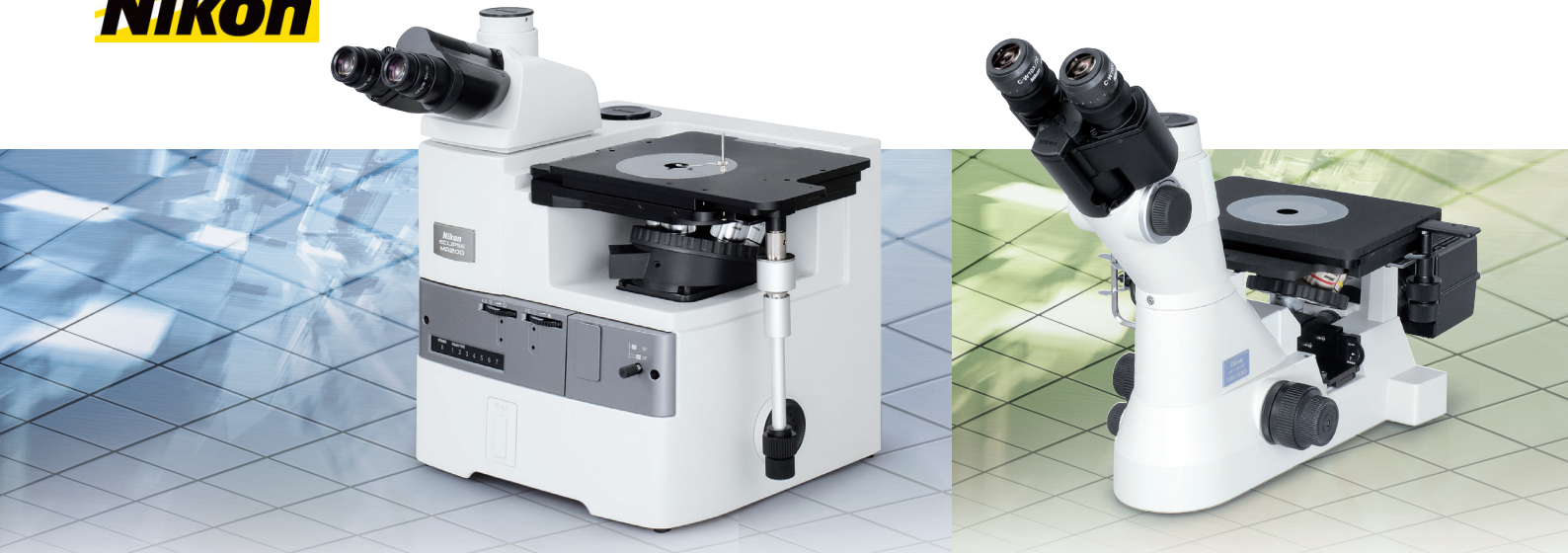




Application NIS Elements

Cast Iron Analysis



Inspection and measurement of the percentage ferrite and pearlite

Ductile cast iron is a composite material in which we have 2-phases metal matrix made of ferrite and pearlite including graphite aggregations in spherical shapes. Nikon Imaging software determines automatically the percentage of ferrite and pearlite.

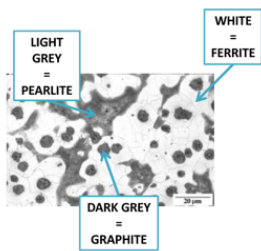


Figure 1 : Standard image which represents ductile cast iron.

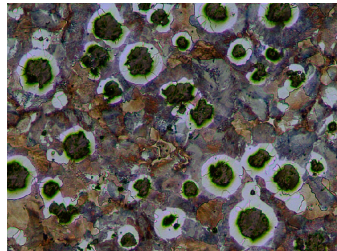


Figure 2 : Cast Iron sample image shows ferrite, pearlite and graphite phases, before grey scale thresholding.

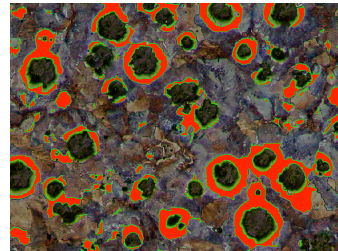


Figure 3 : Binarisation of the ferrite into red color.

Standard:	ISO 945-75
Num. of graphite fields:	0
Num. of ferrite fields:	4
Number of graphites:	0
Nodularity:	0.0 %
Graphite fraction:	0.0 %
Ferrite fraction:	29.2 %
Pearlite fraction:	70.8 %

Figure 4 : Ferrite fraction and pearlite fraction are determined.

Field Data	Image	Source	Field ID	Ferrite ID	Area	Number Of Ferrites	Measured Area
1		MalleableCastIron3.tif	1	1	1001.5	92	92135.7
2		MalleableCastIron3.tif	2	1	1001.5	92	92135.7

Figure 5 : The results are sent to excel.