

» **EDX PERFORMANCE**
D005 2023FPL/INK 29 | R.P. EBELING

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› EDX ANALYSIS REQUIREMENTS

- › This document describes the performance requirements of the EDX system.
 - › The SEM shall be equipped with one EDS detector with a detector surface area of at least 60 mm².
 - › The EDS shall be able to perform analysis from 100 eV up to 30 keV.
 - › The EDS shall have an energy resolution of 140 eV or better for the Mn K α line (5.89 keV).
 - › The EDS shall be able to perform EDX analysis on conducting and non-conducting samples.
 - › The EDS detector shall be able to be moved towards the sample or retracted. This can be done either manually or electronically.
 - › Using EDX software, the user shall be able to:
 - › Perform material analysis on one or multiple custom selectable surface areas, consisting of e.g. squares, circles, points, lines or free form areas.
 - › Analyse the selected surface(s) for a pre-defined amount of time or number of peak counts.
 - › Stop the analysis of the current running analysis location to continue with the next defined location or area.
 - › Let the user process the acquired data of a previously performed analysis while the system is acquiring data.
 - › Make a colour map, with each colour representing one element. The colour per element shall be able to be chosen by the user. The colour map shall be able to be overlapped with the SEM image of the area.
 - › Using EDX software, the user should be able to:
 - › Perform thin film analysis on samples, to obtain information on thin layers (5 nm – 2000 nm) on the surface and sub-surface.
 - › Part of evaluation of requirement (R-2000-020)

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