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UNIVERSITY OF GRONINGEN

Founded in 1614

Included in top 100 university

Numbers of faculties (medicine, law, nanotechnologies...)

40000 students



UNIVERSITY OF GRONINGEN – MATERIAL KUNDE



Prof. Jeff Th. M. de Hosson



Ing. Václav Ocelík, Ph.D.

NEW EXPERIENCE

Laboratories

- for students – open from...until...
- one person is responsible for all equipment in lab
- students have their own polishing clothes
- MK disk
- reservation of equipments

Metallographic technique

- Struers – MD CHEM
- Struers – OPS, OPA

Etching of specimens

Regular consultation with supervisors

SEM

- ESEM 30 XL, EDX analysis

LABORATORIES EQUIPMENT

ESEM 30 XL, EDX analysis

- the same system of cooling detector as we have

CONFOCAL MICROSCOPE ZEISS

- use occasionally

OPTICAL MICROSCOPE

- use occasionally

TRIBOMETER

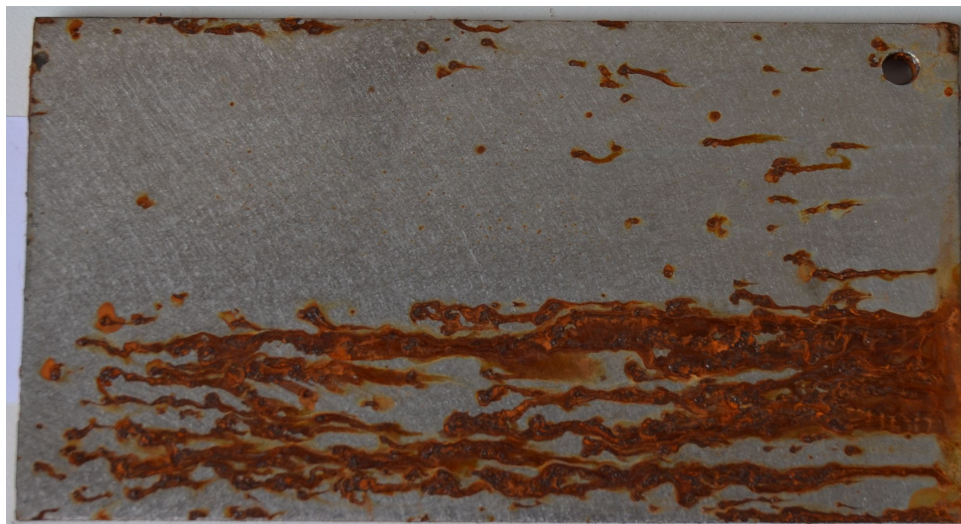
SCRATCH TEST

- microhardness measurement

OIM, EBSD

MY COATINGS

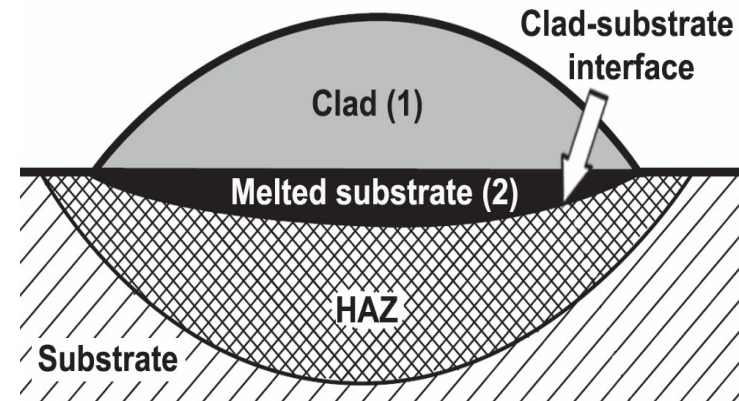
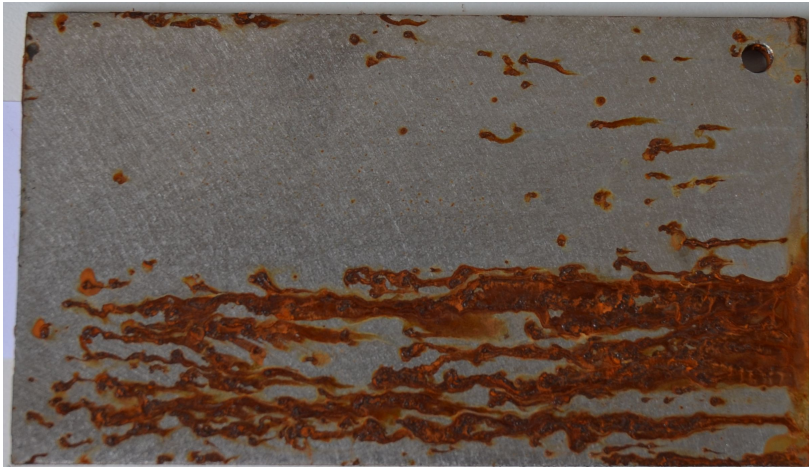
	C	Cr	Ni	Mo	Fe	W	V	Si	Ostatní
Metco 41C	0,03	17	12	2,5	bal.	-	-	2,3	-
Stellite 21	1,1	28,5	2,8	-	1,5	4,4	-	1	Co bal.
In 625	0,03	21,5	bal.	9	0,75	-	-	0,4	Nb 3,6



MY COATINGS



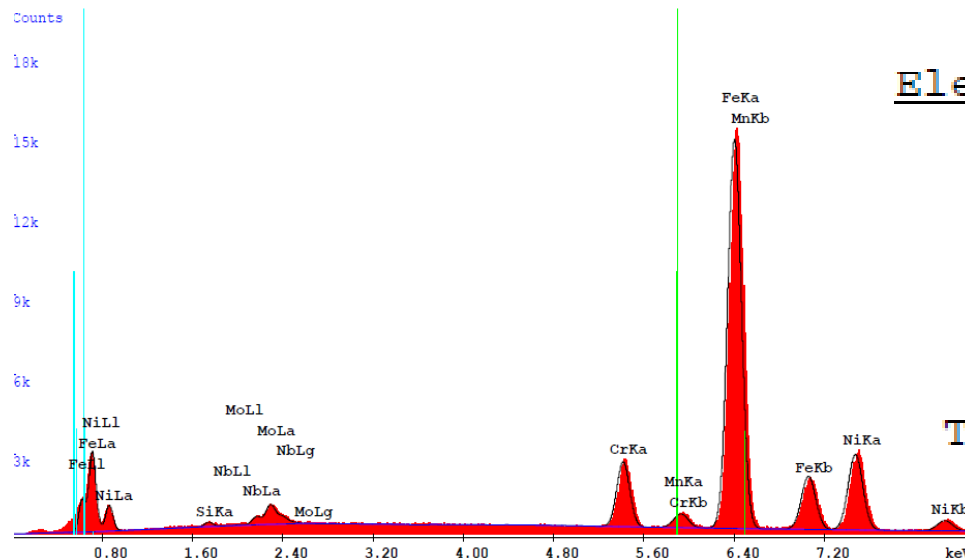
Stellite 21



$$\text{Dilution} = A_2 / (A_1 + A_2)$$

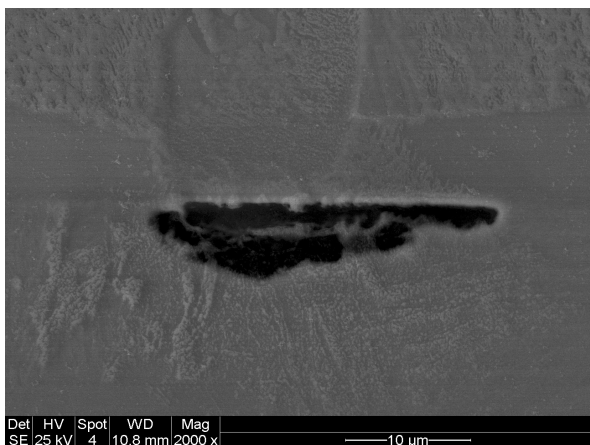
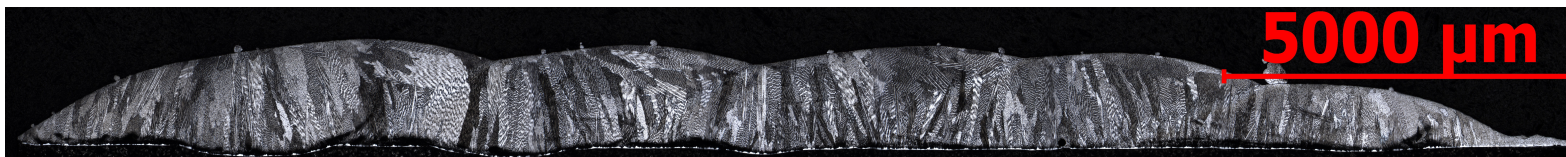
MY COATINGS

- measurement of chemical composition in coatings

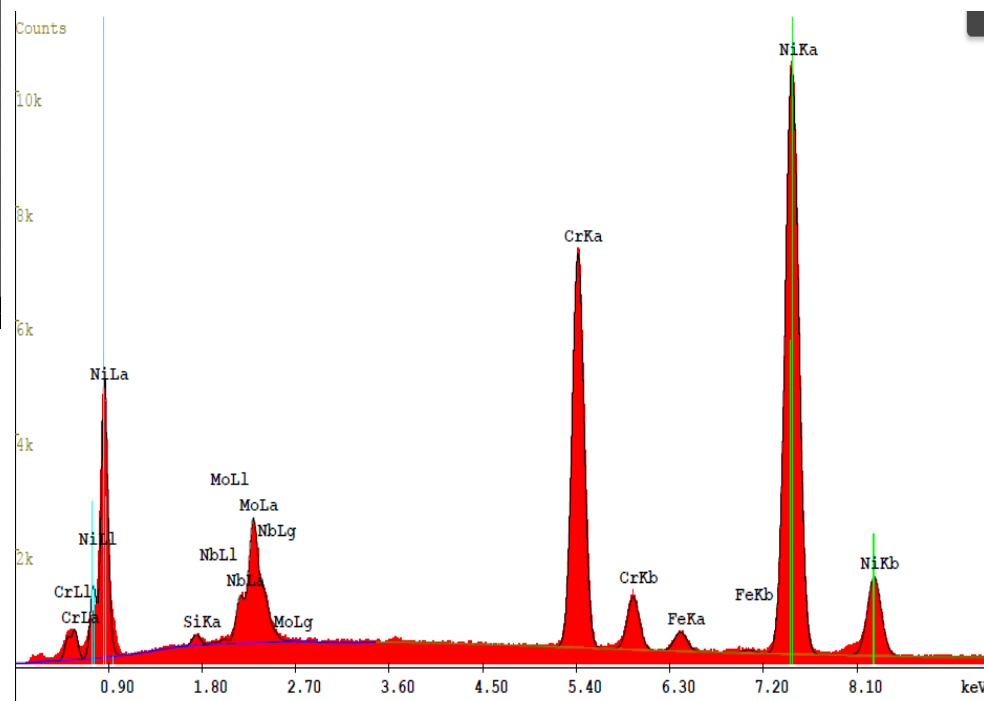


Element	Wt %	At %
SiK	0.47	0.95
NbL	1.56	0.96
MoL	3.39	2.02
CrK	7.01	7.69
MnK	0.93	0.97
FeK	66.02	67.40
NiK	20.61	20.02
Total	100.00	100.00

MY COATINGS

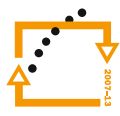


Element	Wt %	At %
SiK	0.53	1.12
NbL	3.98	2.56
MoL	9.59	5.98
CrK	21.10	24.26
FeK	1.36	1.46
NiK	63.44	64.62
Total	100.00	100.00





MINISTRY OF EDUCATION,
YOUTH AND SPORTS



INVESTMENTS
IN EDUCATION
DEVELOPMENT

THANK YOU FOR YOUR ATTENTION

LITERATURE

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