Faculty of Science
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FORMULATION OF NEW MODIFIED ALKYD RESINS AND THEIR APPLICATION IN THE FIELD OF SURFACE COATINGS

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List of Abbreviations

a	Air dried film
A.V.	Acid value
AA2024-T3	Type of Aluminum alloy
AC	Acrylic resin
AFM	atomic force microscopy
AR	Alkyd resin
ASTM	American Society for Testing and Materials specification
ATR-FTIR	Attenuated total reflection in conjunction with infrared spectroscopy
AV	Acid value
AZ31B	Type of magnesium alloy
b.p.	Boiling point
BPO	Benzoyl peroxide
BTA	Benzotriazole
BTESPT	Bis-[triethoxysilylpropyl]tetrasulfide
BTSA	2-benzothiazolythio-succinic acid
BZ	Benzoate
C_c	Coating capacitance,
Ce(dbp)$_3$	Cerium dibutyl phosphate
CHVE	Cyclohexyl vinyl ether
CNTs	Carbon nano-tubes
^{13}C NMR	^{13}C nuclear magnetic resonance
DEA	Diethanolamine
DFT	Dry film thickness
DIN	German Institute for Standardization (**D**eutsches **I**nstitut für **N**ormung)
DLS	Dynamic light scattering
DMA	Dynamic mechanical analysis
D_p	Degree of polymerization
DSC	Differential scanning calorimetry
e_0	Total equivalents percent at start of reaction

Continued List of abbreviations	
e_A	Total number of acid and anhydride equivalents
e_B	Total number of hydroxyl equivalents
EB	Electron beam
E_{corr}	Corrosion potential
EDX	Energy-dispersive X-ray spectroscopy
EIS	Electrochemical impedance spectroscopy
EN	European standardization
Eq.w.	Equivalent weight
Ex	Excellent (almost no film defect)
F	Functionality
F	Fair (partially attacked)
FAME	Fatty acid methyl esters
FESEM	Field emission scanning electron microscope
FTIR	Fourier transform infrared spectroscopy
G	Glycerin
G	Good (very slight attack)
GC–MS	Gas chromatography–mass spectrometry
GNPs	Graphene nano-platelets
GO	Graphene oxide nanosheets
GPC	Gel permeation chromatography
GPEr	Hydroxyl oligomers
GPTMS	(3-glycidoxypropyl)methyldiethoxysilane
h	Hour(s)
^{1}H NMR	Proton nuclear magnetic resonance
H_2O off	Water millimeters at which the reaction will be completed
HAP	Hazardous air pollutants
HBAs	Hyperbranched alkyd resins
HBP	Hyperbranched polyester polyol of fourth generation
HD	Hard dry
HEFCA	N,N-bis(2-hydroxyethyl)furan-2-carboxamide **4**
HETCA	N,N-bis(2-hydroxyethyl)thiophene-2-carboxamide **3**