

LEGAL ASPECTS of Capacitors Supplies – Part 2

ZEZ SILKO manufactures and supplies a wide range of PP film capacitors

LV PFC capacitors



MV capacitors



Power Electronics Capacitors



Induction heating caps



Energy storage caps



Reactors

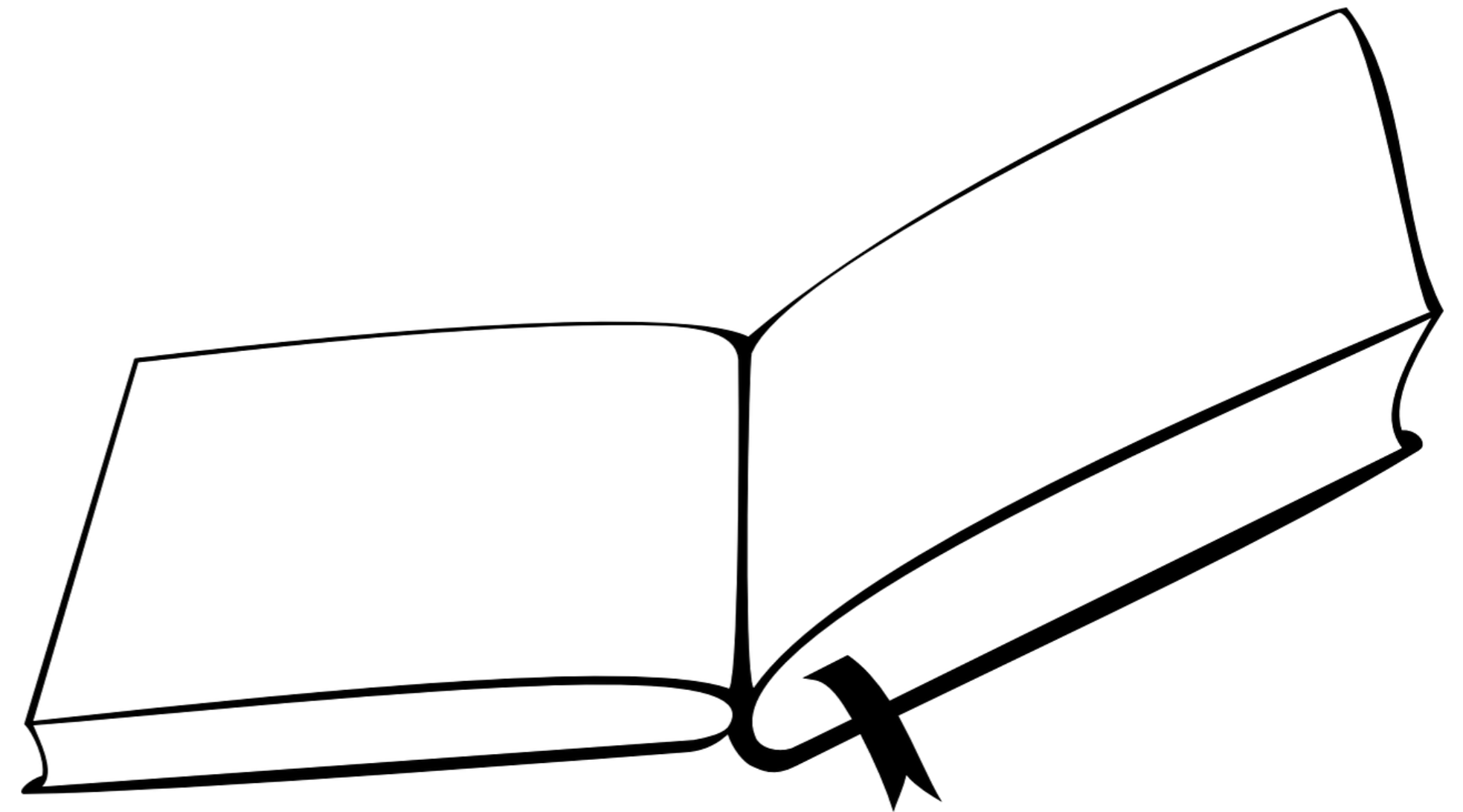


Capacitor banks



CONTENTS

- ✓ Dual-use goods
- ✓ Dangerous goods (ADR) – Part 2



Dangerous goods ADR definition:

- ✓ „Accord Dangereuses Route “ – agreement adopted in Geneva on September 30th, 1957.
- ✓ Dangerous goods are defined in the Road Transport Act, as substances and objects whose nature, properties or condition may endanger the safety of persons, animals and things or the environment in connection with their transport.



ADR – dangerous properties

- ✓ Gas explosiveness
- ✓ Gas pressure
- ✓ Flammability of liquids or solids
- ✓ Self-ignition
- ✓ Oxidizing ability
- ✓ Infectiousness
- ✓ Radioactivity
- ✓ Corrosiveness
- ✓ **Toxicity**



ADR – relation to capacitors

- ✓ **Impregnation oil** – JARYLEC C 101 D
- ✓ Capacitors – medium voltage PFC (CUEFS, CPEFS)
- ✓ Capacitors – induction heating (FRJJS, FUJJS,...)
- ✓ Capacitors – surge protection (PUEFS, PUFFS)
- ✓ Identification number: UN 3548
- ✓ **UN 3548 = ARTICLES CONTAINING OTHER DANGEROUS SUBSTANCES**





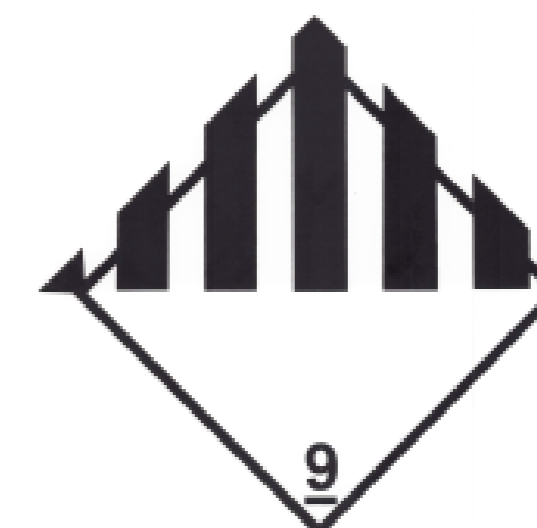
ADR – obligations of capacitors shipments

- ✓ Capacitor safety datasheet
- ✓ Impregnation oil safety datasheet
- ✓ Packaging boxes label
- ✓ Required data for forwarder:
 - **UN 3548**
 - **impregnation oil weight per shipment**
 - **dangerous goods form**



ADR – packaging boxes label

Capacitors containing impregnation oil JARYLEC C 101 D													
Importer:	<p>ZEZ SILKO, s.r.o. Pod Černým lesem 683, 564 01 Žamberk CZECH REPUBLIC Tel.: +420 465 673 111 Fax: +420 465 612 319 E-mail: zez@zez-silko.cz</p> 												
UFI code:	3300-A06R-U00W-G9KQ												
Use of the substance:	Industrial use. Professional use. SU3: Industrial production (all)												
Mixture is classified as dangerous according Directive EC 1272/2008													
Hazard pictograms:													
Signal word:	DANGER												
Contains:	<table border="0"> <tr> <td>Benzyltoluene</td> <td>CAS: 27776-01-8</td> </tr> <tr> <td>Dibenzylbenzene</td> <td>CAS: 53585-53-8</td> </tr> </table>	Benzyltoluene	CAS: 27776-01-8	Dibenzylbenzene	CAS: 53585-53-8								
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ZEZ SILKO advantages

- ✓ 90 years of capacitor production
- ✓ Experienced technical support
- ✓ Tailor made solution
- ✓ Flexibility
- ✓ High quality
- ✓ Full range of products
- ✓ Short delivery time





Thank you very much for your attention!

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