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Titolo	Guide to Biomass comminution : material properties, machinery, principles of the process and fundamentals of process modelling // Lukasz Niedzwiecki
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Guide to Biomass comminution; Table of contents; 1. INTRODUCTION; 1.1 General; 1.2 Comminution as one unit operation in the Biofuel supply chain; 1.3 Structure of biomass - wood as an example; 1.4 Elementary mechanics in the comminution process; 1.5 Comminution machinery; 2. MODEL INTRODUCTION; 2.1 The reason for making a model; 2.2 Models valid for brittle materials; 2.3 Identification of reliable parameters for the model; 2.4 Measuring the specific energy; 3. QUALITATIVE CHIPPING MODEL; 3.1 Derivation of the qualitative model for chipping; 4. RESULTS AND DISCUSSION 4.1 Coefficients for the equations5. CONCLUSIONS; 6. Bibliography; APPENDIX A - different classifications of biomass comminution equipment; APPENDIX B - technical specification of properties for solid biofuels; APPENDIX C - Janka Hardness and Dry density; APPENDIX D - Janka Hardness and Moisture Content - along with coefficients for linear function of moisture in the chipping model; APPENDIX E - different models of chippers and their basic parameters
Sommario/riassunto	This study aims to derive a qualitative model for energy requirements of the wood chipping process. A relationship is shown between energy requirements and properties of biomass, which is a quite variable material. The relationship between comminution machinery and energy which is necessary for the process is highlighted. The derivation of the

model is focused on chipping, but it is generally possible to make it available for both different types of biomass (f. ex. agricultural residues) and different types of comminution machinery (f. ex. hammermills) by using different material properties adju

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