

# DIN EN 1034-3:2012-02 (E)

## Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 3: Rereelers and winders

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	7
4	List of significant hazards .....	9
5	Safety requirements and/or measures .....	12
5.1	General .....	12
5.2	Workplaces, means of access, catwalks, passageways .....	13
5.3	Start-up warning device .....	13
5.4	Emergency stop device and braking system .....	13
5.5	Isolation and energy dissipation, prevention of unexpected start-up .....	14
5.6	Equipment for make-ready and maintenance .....	14
5.7	Equipment for cleaning and removal of broke and waste .....	15
5.8	Control system and actuators .....	15
5.9	Noise .....	16
5.10	Integrated lighting .....	17
5.11	Ergonomic principles .....	17
5.12	Electrical equipment .....	17
5.13	Hydraulic equipment .....	17
5.14	Pneumatic equipment .....	17
5.15	Electric drive system .....	17
5.16	Power transmission elements, mechanical brakes .....	18
5.17	Web threading .....	18
5.18	Unwind .....	18
5.19	Feeding of broke into the pulper, pulper flap .....	20
5.20	Rolls, guide rolls, spreader rolls, slitter rolls .....	20
5.21	Embossing calender of tissue winders .....	21
5.22	Web cutting device .....	21
5.23	Hazards caused by web breaks .....	21
5.24	Slitter section, device for removing the trimmed material, integrated shredder .....	21
5.25	Windup section .....	22
6	Verification of compliance with safety requirements and/or measures .....	25
7	Information for use .....	26
7.1	General .....	26
7.2	Instruction handbook .....	26
7.3	Marking .....	27
Annex A (informative) Figures .....		28
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC .....		40

<b>Table 1 -- List of significant hazards .....</b>	<b>10</b>
<b>Table 2 -- List of safety functions, Performance Level and Safety Integrity Level specified in this standard .....</b>	<b>15</b>
<b>Table 3 -- Verification of compliance with safety requirements and/or measures .....</b>	<b>26</b>
<b>Figure A.1 -- Principle of a rereeler .....</b>	<b>28</b>
<b>Figure A.2 -- Principle of a two-drum winder .....</b>	<b>29</b>
<b>Figure A.3 -- Principle of a two-drum winder for narrow slitting width .....</b>	<b>30</b>
<b>Figure A.4 -- Principle of a two-drum winder .....</b>	<b>31</b>
<b>Figure A.5 -- Principle of a two-drum winder with an integrated pulper and reel spool storage .....</b>	<b>32</b>
<b>Figure A.6 -- Principle of a single-drum bobbin winder with centre-surface drive .....</b>	<b>33</b>
<b>Figure A.7 -- Principle of a single-drum winder with centre-drive .....</b>	<b>34</b>
<b>Figure A.8-- Principle of a centre driven winder with single contact rolls .....</b>	<b>35</b>
<b>Figure A.9 -- Principle of a winder with machine reel- and reel spool storage .....</b>	<b>36</b>
<b>Figure A.10 -- Principle of a single-drum centre-driven winder .....</b>	<b>37</b>
<b>Figure A.11 -- Principle of a tissue winder (plying machine) .....</b>	<b>38</b>
<b>Figure A.12 -- Example for a tool for changing slitter knives .....</b>	<b>39</b>