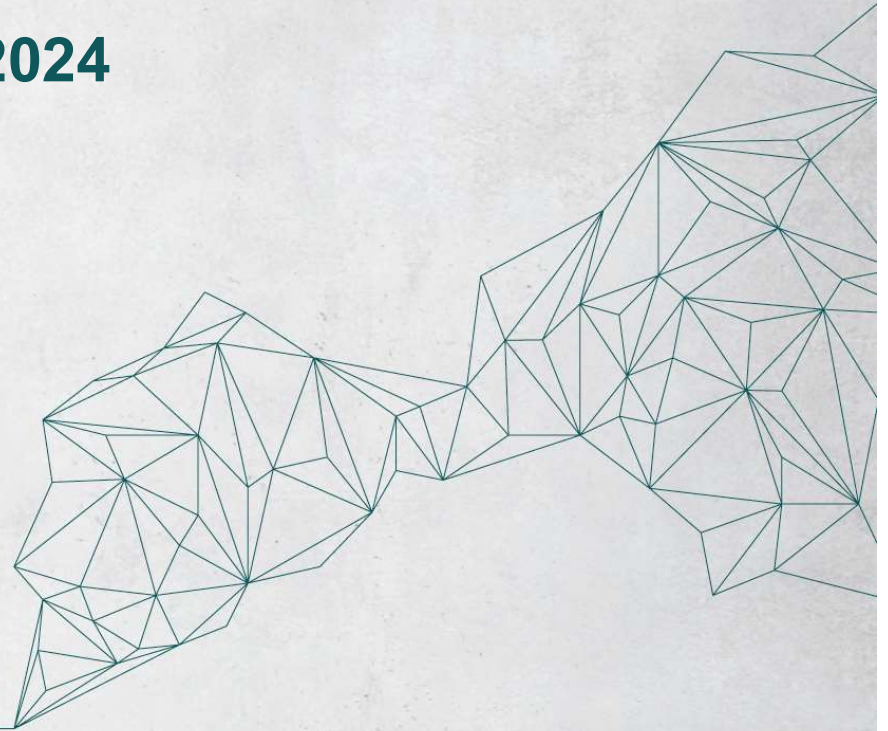


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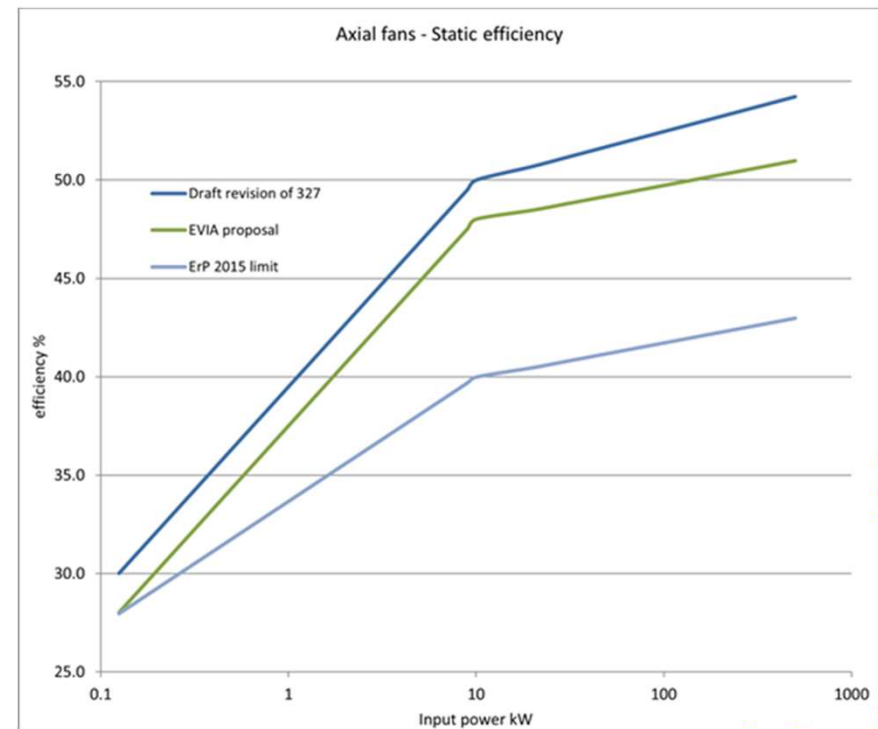
Fan ecodesign 2024/1834

New requirements, interpretation and what next?

New ecodesign regulation for fans 2024/1834

What has changed from 327/2011?

- Minimum limits increased
- Performance determine by direct measurement
- More exclusions
- In general, clearer definitions – prEN17166
- Jet fan efficiency determined using thrust
- Jet fan limit set for >750 W?
- Dual use fans compensation factor – 10%
- Reversible fan compensation factor
- High pressure-low volume fans – bespoke limit
- Information requirements for partial load operation
- Resource efficiency requirements
- Material efficiency information requirements
- Annex III measurement & calculations



Corrigendum

and status of FprEN 17166



Corrigendum

Article 9

Repeal and transitional provisions

1. Regulation (EU) No 327/2011 is repealed with effect from 24 July 2026. However, Annexes I, II and III to that Regulation, shall continue to apply until 24 July 2037, in relation to fans integrated into other products and in relation to spare part fans.

Annex IV table 3 – verification tolerance fans speed (rpm)

- Changed to 5%
- New definitions
 - Impeller tip diameter D_R as per ISO 13349-1:2022
 - Tip speed of the impeller u as per ISO 5801:2017
 - ‘inherent speed’ means the rotation speed of the fan impeller, when the fan is operated at its nominal voltage and frequency (50 Hz, or 60 Hz in case of motors rated at 60 Hz only), applying the out-of-the-box default settings in case of VSD-driven fan



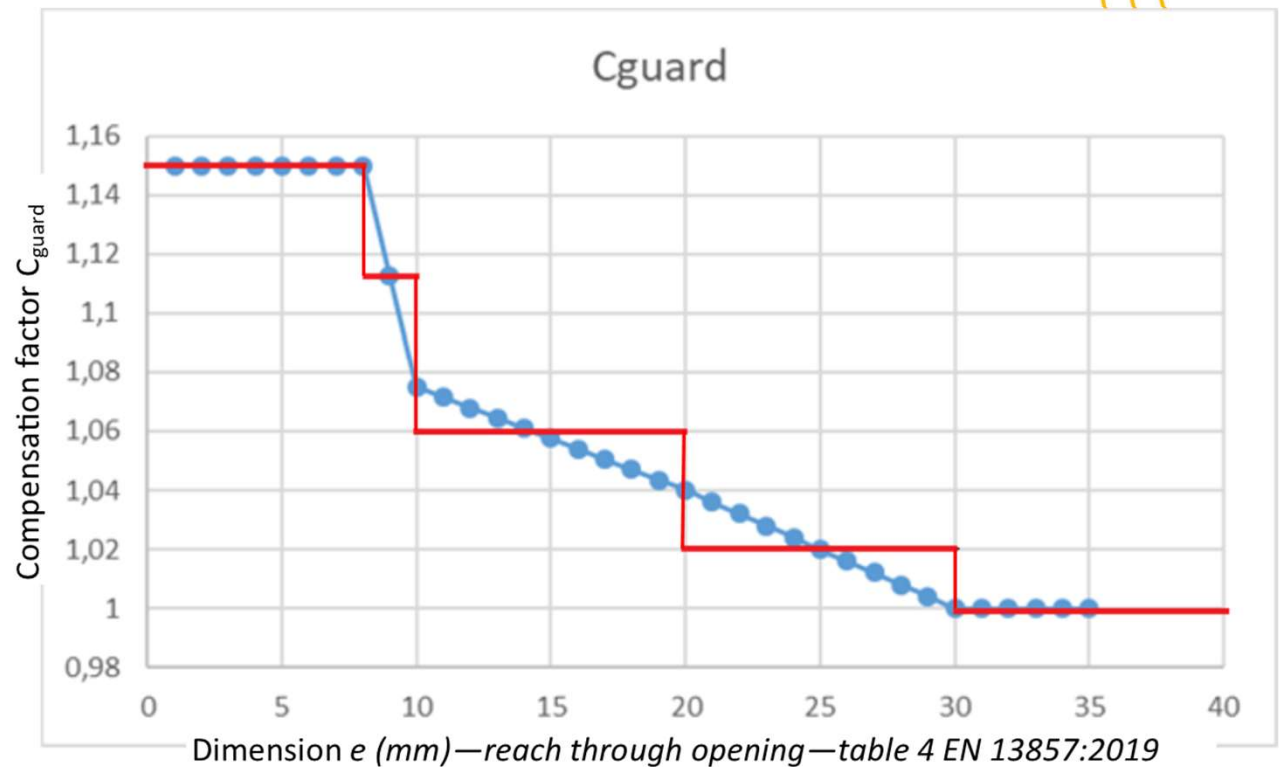
Status of prEN 17166

- The intention is for the standard become a harmonized standard and be published in the Official Journal of the European Union (OJEU).
- FprEN 17166 failed final voting in 2019
- Delay due to Covid and confusion
- Revised working framework between the European Commission and the European standardization organizations.
- CEN TC156 WG17 have corrected the draft after feedback from the Policy Office
- New enquiry vote started 29th August closes 22nd October

Interpretation

Compensation factor for permanently fitted guard

A correction factor C_{guard} maybe applied, with the continuous function rather than fixed values, in function of the opening e :



Environmental impact



Environmental impact – resource efficiency



For other fans – availability of spare parts –

- (1) motors of which the rated power is lower than 10 kW;
- (2) motor brushes;
- (3) impellers;
- (4) stator elements;
- (5) mechanical drive components;
- (6) variable speed drives;
- (7) sensors;
- (8) wearing parts (sacrificial elements);
- (9) joints and fixtures required to install these spare parts;
- (10) fan bearings;
- (11) motor bearings when the fan is integrated with the motor above 1 kW.

Access to repair information including but not limited to

–

- Disassembly map
- Instructions for repair
- Necessary tools

Some requirements of the waste electrical and electronic equipment (WEEE) are now applied to fans –

- Requirements for dismantling for material recovery and recycling while avoiding pollution:



Environmental impact – material efficiency



user and installer instructions shall be provided in the form of a user manual on free access websites of manufacturers, importers and authorised representatives, and shall include the following information:

- (a) how to **access professional repair services** (internet webpages, addresses, contact details);
- (b) relevant **information for ordering the spare parts** made available to end-users, directly from the manufacturer or through other channels;
- (c) the minimum period during which these spare parts are available;
- (d) the minimum duration of the guarantee of the fan in years;
- (e) details of any proprietary tool required for repair;
- (f) instructions of correct installation;
- (g) instructions for maintenance;
- (h) identification of errors, the meaning of the errors and the action required, including identification of errors requiring professional assistance;
- (i) information on any implications of self-repair

What next?

What next?

Article 8 - Review – 6 years after entry – 2030

- whether it is appropriate to revise the metrics with an extended and technology-neutral product approach, including part load performance;
- whether it is appropriate to revise the efficiency limits in line with the new metrics and technological progress;
- the relevance of regulating fans below 125 W electric power, air circulating fans and large comfort fans;
- the relevance of regulating jet fans below 750 W;
- resource efficiency, repairability, reuse and recycling, recycled content and durability;
- the relevance of the exemptions laid down in Article 1;
- the relevance of the circumvention provisions laid down in Article 6;
- the potential of 3D printing of elements;
- whether it is appropriate to revise the requirements on the storage of product information due to the possible introduction of a digital product passport;
- the relevance of requiring an energy label

What next?

Ecodesign requirements for sustainable products regulation (ESPR)

Article 5 – ecodesign requirements

- Circular economy
- Resource efficiency
- Embedded energy
- Digital product passports

Ecodesign preparatory study for product specific measures on scarce, environmentally relevant and critical raw materials and on recycled content

Mini ecodesign studies to identify measure than can be applied horizontally to other ecodesign regulations



What next?

Final product selection for further study

Product-material bin	Environmental ranking	Supply risk ranking CRM	Legislative feasibility	Life-time	Comments
Household refrigerators and freezers (white goods) / Plastics	Plastics: 1 All materials: 7 3 highest amounts of materials: - Ferro: 49% - Bulk plastics: 19% - Technical plastics: 15%	15 Top 5: - Bauxite/Al - Silicon metal - Palladium - Coking coal - Copper	Review due December 2025 under ESPR	16.0	Results from this study would need to await the review.
Imaging equipment (ICT / electronics) / Plastics	Plastics: 2 All materials: 3 3 highest amounts of materials: - Ferro: 40% - Bulk plastics: 31% - Technical plastics: 11%	9 Top 5: - Palladium - (Tin) - Bismuth - Bauxite/Al - Antimony	Preparatory study ongoing under ED	5.3	
Electric motors (industrial /B2B) / Ferrous & non-ferrous metals	Ferrous metals: 1 Non-ferrous metals: 1 All materials: 6 3 highest amounts of materials: - Ferro: 75% - Non-ferro: 22% - Technical plastics: 2%	13 Top 5: - Bauxite/Al - Silicon metal - Palladium - Coking coal - Copper	Due for review under ESPR	9.3	No other industrial / B2B are relevant. Results from this study would need to await the review.
Personal computers (ICT / electronics) / Electronics and non-ferrous metals	Electronics: 2 Non-ferrous metals: 2 All materials: 2 3 highest amounts of material categories: - Ferro: 46% - Electronics: 22% - Plastics: 18%	1 Top 5: - Tantalum - Cobalt - Palladium - Bauxite/Al - Magnesium	Review ongoing under ED	5.2	
Household washing machines (white goods) / Ferrous metals	Ferrous metals: 2 All materials: 11 3 highest amounts of material categories: - Ferro: 43% - Misc.: 35% - TEC Plastics: 10%	11 Top 5: - Nickel - Bauxite/Al - (Chromium) - Palladium - Coking coal	Preparatory study ongoing under ESPR	14.9	

CRM content and ranking is for induction motors; Phase 2 study might extend scope with CRM in permanent magnet motors

Summary



Summary



- The revised regulation 2024/1834
 - Sets tough new minimum energy efficiency limits
 - Some changes to be applied
 - Needs some interpretation
 - Includes measures to tackle the environmental impact
- What next?
 - Environmental measures as detailed in the ESPR – but when?
 - Will horizontal measures be applied?
 - How will the revision of the motor regulation affect fans?

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