RADMAC

RADiators Mutual Acceptance of Certification

An information of

HEIZKÖRPER RAL GÜTEZEICHEN AUS STAHL

Eurovent Certita CERTIFICATION

AENOR Asociación Española de Normalización y Certificación

bsi.

TÜVRheinland® DIN CERTCO Genau. Richtig.

The history

This RADMAC group was initiated by EURORAD (body of European manufacturers of radiators) and the certification bodies **(AFNOR Certification, BSI, DIN CERTCO and RAL),** was created at the beginning of 1994 in order to harmonize all voluntary certification schemes for Radiators using hot water. In 2001, **AENOR** entered the RADMAC group.

The first stage consisted in implementing the acceptance of the test reports issued by the testing laboratories which were contractually bound with the RADMAC certification bodies. This resulted in the signing of a first agreement "Agreement for the mutual acceptance of test data on radiators and convectors complying with EN 442 for the granting of voluntary certification marks by certification bodies".

At the beginning, the list of laboratories and the interlaboratory tests (commonly called RRTs "Round Robin Tests") were managed at the European level by the ad hoc group CEN TC 130/WG8. As this group became dormant, RADMAC decided to take over the management formerly ensured by WG8 and set up the RADMAC S2 group. However, due to the regulatory changes brought in by the arrival of the CE marking and the notification of bodies to issue this marking, RADMAC decided in 2006 that the follow up of laboratories should be handled again at European level by the group CPRTch/SG03/WG1. Thus, RADMAC can rely on a list of laboratories which benefit from regulatory recognition.

The second stage, which started in 2004, aimed at the acceptance of the multiple mark audit reports issued by RADMAC member certification bodies. This resulted in the signature in 2003 of a second agreement "Agreement for the mutual acceptance of inspection reports for the granting of voluntary certification marks issued by certification bodies for radiators and convectors complying with EN 442". Auditors who perform audits according to the RADMAC scheme have been qualified. They regularly meet within the RADMAC S3 group (Lab) to share their experiences and maintain their qualifications.

Quality which convinces.

Certified radiators guarantee a precisely defined material quality at the highest level:

- Certified rated thermal output (according to EN 442)
- Demonstrably highest material quality
- Precise welding and standardised priming and finishing coating
- Leak pressure test
- Continuously monitored production process
- Audits by neutral inspection bodies

Planning without risk – thanks to a quality mark

Some owners and modernising architects are of the opinion that radiators only differ in small details and make a frivolous decision based on price only. But seemingly cheap offers often emerge as sham package. Considerable additional costs caused by nonconformities in processing and quality as well as wrong design quickly let the ostensible savings vanish into thin air.

From the beginning you should trust in quality:
Certified radiators with a well-defined material quality at the highest level to prevent customers complaints and pleasing heating comfort for many years.
Quality: The business card for competence.

Quality from the specialist trade.
Radiators sealed and signed.

More quality, more choice!
A multitude of modern radiators for fashionable bathrooms and all kinds of living and working areas bear a quality mark.

Certified radiators: Add-on of quality and performance

Thermal output
The accuracy of the thermal output according to EN 442 has to be attested by a neutral approved testing laboratory. All data concerning thermal output are registered and have to conform to the specifications according to EN 442. These are the premises for a perfect design of the radiators and energy saving heating.

Marking
Only radiators which come from a monitored production by one of the partners of RADMAC are allowed to bear a quality mark.

Security in quality and performance
Sealed and signed quality. Certified radiators offer a maximum of security for architects, planners, specialist trade, installer and owners.

Materials
Materials such as steel sheets, tubes etc. at least conform to the requirements according to EN 442-1. The material quality has to be documented with a test report or laboratory test.

Storage of raw materials
Only raw materials which are free of corrosion and damage may be used; the quality must be accounted for at all times. Therefore the storage has to be performed in a way to debar damage and corrosion.

Wall thickness
The wall thickness of the processed materials conforms at least to the requirements according to EN 442-1. Perfect material quality results in safety, reliability and long life span.

Welding
The applied welding processes have to correspond to the state-of-the-art. The welding has to follow the product drawing precisely. All constructive characteristics such as length of welds, number of welding spots and the distance in between etc. are fixed.

Pressure test
Every single radiator has to perform a leak pressure test according to EN 442-1. The test pressure has to amount to 1.3 times of the allowed operating pressure. This data has to be displayed in all technical documents. In addition burst tests have to be carried out. Certified radiators are absolutely safe. The danger of a bursting radiator is eliminated almost completely.

Finishing coat
Radiators with a RADMAC quality label receive a priming which conforms to the corrosion test according to EN 442-2. All criteria of the finishing coat have to be registered in the test report. Witness cross-cut test during audit. When controlled the criteria have to coincide with radiators from the production: Guaranteed protection and a good look for many years.

Monitored production process: Calibration and ongoing examination
All steps of the production process of certified radiators is monitored by internal control modules and documented in every phase – a quality evidence for a product without defects. Calibration of all measuring equipment is compulsory and has to be repeated every year anew.

Quality assurance system
The rated thermal output as well as the technical documents of all certified radiators can be accessed free of charge at the certification bodies websites:
www.certita.fr
www.aenor.es
www.bsigroup.com
www.dincertco.de

For the comprehensive documentation a quality manual with all work instructions is required for every member of RADMAC. In order to document all production steps without exception an evidence of quality has to be accomplished which has to be shown to inspection companies at every control visit.

Inspection
After the comprehensive initial test the external inspection is performed at least once a year by a neutral test laboratory without prior notice. This ensures that the given guidelines are observed consistently – manipulation is therefore impossible.

Violation
Depending on the impact violation of the quality directives are avenged with the withdrawal of a quality mark. By this means the certifiers not only protects members but also the users and consumers.

The CE marking

The CE marking of radiators only signals the compliance with the minimum standard requirements for sales in Europe. In contrast to the quality mark it does not offer assured quality evidence.

Certified radiators conform to the up-to-date quality standard regarding highest security and long life span as the comparison chart shows.

When consulting owners and installing radiators you should always pay attention to a quality mark.

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Quality mark in comparison to CE marking

	CE	RADMAC / NF / AENOR / DIN / RAL / HKV
Initial test of rated thermal output according to EN 442 in approved laboratories	✗	✗
Leak pressure test with at least 1.3 times operating pressure	✗	✗
Periodical control of rated thermal output measurement according to EN 442	○	✗
Precisely defined material quality: Evidence by test report or own laboratory tests	○	✗
Checked quality assurance system for a complete documentation of the whole production process	○	✗
Product construction and quality is secured by yearly inspections performed by independent inspection bodies	○	✗
Precise welding – control through burst test and additional mechanical tests	○	✗
Controlled priming according to (EN 442-2) and finishing coat	○	✗
Cross-cut test	○	✗

CONCLUSION: Only radiators from quality controlled production guarantee highest quality which exceeds the standard requirements by far and are allowed to bear a quality mark. Through numerous controls and regulations the certification bodies protect craftsman and owners much better than the CE marking.

Better quality and performance is offered by these quality marks.

In the future never without these quality marks!

www.aenor.es
www.bsigroup.com
www.dincertco.de
www.certita.fr
www.heizkoerper-ral.de
www.wspcert-ral.de