

Höhr-Grenzhausen, 11.06.2026

Review Paper: The Role of Antioxidants in Refractory Products

Client:

Joint project with participating companies from the industry dialogue Steel meets Refractory (SMR), executed by the Research Association for Refractories (FGF).

Background & Motivation

Antioxidants in refractory materials are controversial. There is evidence that they extend service life, but they complicate recycling. To date, there is a lack of scientifically based decision-making criteria for when their use is truly necessary. This review provides clarity and supports the industry in:

- **Increasing recycling rates** through targeted use of antioxidants,
- **Strengthening supplier relationships** through a shared knowledge base for refractory and steel manufacturers,
- **Cost reduction** by avoiding unnecessary additives,
- **Compliance** with future circular economy regulations,
- **Supporting your own R&D** without additional effort,
- **Providing arguments and negotiation bases** for your sales team.

Objectives

The review consolidates the current state of science and practice, from literature research to anonymized case studies, creating a solid knowledge base for the entire industry.

At the same time, it offers clear decision-making support through an objective pro/con analysis, showing when antioxidants are truly indispensable and when they can be avoided without performance loss.

Content & Structure

| Section | Content |
|---------------------------------|---|
| Executive Summary | One-pager for decision-makers. |
| Introduction | Relevance of the topic, industry challenges. |
| Methodology | Literature research (Citavi database FGF + online research), practical reports. |
| Pro/Con Analysis | Scientific findings + concrete application examples. |
| Case Studies | Practical experiences (anonymized, if desired). |
| Conclusion & Outlook | Summary, open questions, research needs. |

Added Value for Participants

- ✓ **Cost Efficiency:** Joint financing (from €1,200/company with 25 participants).
- ✓ **Industry Network:** Exchange with other manufacturers and users via the FGF platform.
- ✓ **Sustainability:** Contribution to the circular economy and positioning as a pioneer.

Framework Conditions

| Parameter | Details |
|------------------------|---|
| Costs | €30,000 (net) total - graduated according to the number of participants. |
| Financing | Individual invoices via FGF. |
| Timeline | 31.07.2026: Binding letter of intent. August 2026: Project start. September 2026: Provision of the review (PDF). |
| Confidentiality | Results initially only for participants; public release only after permission (recommended). |
| Participation | Optional inclusion of practical examples or interviews from your company. |

Cost Graduation

| Number of Participants | Cost per Company |
|------------------------|------------------|
| 10 | €3.000 (net) |
| 15 | €2.000 (net) |
| 25 | €1.200 (net) |

To participate, please send the signed letter of intent by **31.07.2026** to hauke@fg-feuerfest.de.

p. p. Dr. Kerstin Hauke