TZW
Prüfstelle Wasser

PRÜFZEUGNIS (V)

über die Untersuchung von "Loxeal 85-86 (modified)" in Anlehnung an die KTW-Leitlinie des Umweltbundessamtes (UBA)

Hersteller:	Loxeal s.r.l., CESANO MADERNO, Italien
Art der Proben:	anaerobes Dichtmittel
Bezeichnung der Proben:	"Loxeal 85-86 (modified)"
Art der Prüfkörper:	geklebte Prüfbäume und beschichtete Edelstahlplatten
Eingang der Proben:	26.09.2007
Probenehmer:	Auftraggeber
TZW-Az.:	KA 0134/13

Untersuchungsergebnisse

1. Rezeptur: wurde unter KC 289/13 vorgelegt und überprüft
2. Migrationstest:

Kaltwasser 23°C	1. – 3. Tag	4. – 6. Tag	7. – 9. Tag	Richtwert für 3. Extraktion
Klarheit, Färbung, Geruch, Geschmack, Schaumbildung	nnb	nnb	nnb	nicht nennenswert beeinflusst
C-Abgabe [mg C/m²d]	319	189	110	≤ 125
Cl_2-Zehrung [mg Cl_2/m²d]	49	< 10	< 10	

Warmwasser 60°C	1. Extr.	6. Extr.	7. Extr.	Richtwert für 3. Extraktion
Klarheit, Färbung, Geruch, Geschmack, Schaumbildung	nnb	nnb	nnb	≤ 4
C-Abgabe [mg C/m²d]	345	157	102	≤ 125

10 Rezepturbestandteile, die der Geheimhaltung unterliegen	Richtwert eingehalten	Trinkwasser-SML-Werte nach BedarfsgegenständeV

Die untersuchten Proben "Loxeal 85-86 (modified)" entsprechen den Anforderungen in Anlehnung an die KTW-Leitlinie des Umweltbundesamtes (Bgesundhbl. 2005) im Bereich Dichtungen.

Anmerkung:

Dieses Prüfzeugnis basiert auf der Erstprüfung (TZW-Az.: KA 298/07) vom 12.02.2008.
Die Gültigkeit dieses Prüfzeugnisses richtet sich nach andernorts festgelegten Bestimmungen. Sie endet jedoch spätestens am 11.02.2018.

Karlsruhe, den 27.05.2013

Dr. J. Klinger / i.A. Dr.-Ing. R. Turkovic
Leiter der Prüfstelle

Die Veröffentlichung des Prüfzeugnisses – vollständig oder in Auszügen – ist ohne ausdrückliche Genehmigung von seiten der Prüfstelle nicht gestattet

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as at: 11 February 2016

INFORMATION

Hygienic assessment of anaerobic adhesives that come in contact with drinking water

Only the German version is legally binding.

Anaerobic adhesives are reactive sealants, which only cure in the presence of metals and under the exclusion of oxygen. They are used for gluing together threaded joints, for example the corner valve, or for gluing in place the connecting joints in the water tap.

As a general rule, anaerobic adhesives are cross-linked to form polyacrylates or polymethacrylates with the help of accelerants. The following starting materials are used for the manufacture:

- More than 60% of mono-/multifunctional acrylates and/or mono-/multifunctional methacrylates (e. g. (meth-)acrylate-terminated compounds of the form acrylate-R-acrylate and/or acrylate-R, where R = organic residue, e.g. hydrogen, urethane, epoxy, acrylate, aliphatic and aromatic residues, polyol), which are cross-linked to form polyacrylates/polymethacrylates with the help of accelerants (e.g. peroxides and amines).
- Other additives include softeners, fillers, thickeners, polymerisation aids, preservatives such as stabilisers and colorants.

In the past, it was impossible to evaluate these adhesives based on the guidelines and recommendations of the German Environment Agency (UBA).

The Positive List of the Coating Guideline, which also includes air-hardened adhesives such as for example epoxy resin glues, does not cover the typical formulations of anaerobic adhesives. In addition, no option is available to examine these products in accordance with the migration test as set forth in DIN EN standard 12873-1 and -2. This means that no data is available about the possible migration of substances.

The contact surfaces of cured anaerobic adhesives with drinking water are smaller than those of seals in the drinking water distribution system. As a

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result, possible migration of substances from the cured adhesives are deemed (extremely) low. The efforts for creating a positive list would be disproportionate in comparison with the expected low migration potential of materials from the cured adhesive.

As for the factory use of anaerobic adhesives, it can be assumed that they are completely cured under the specified (optimal) conditions and that no analytically measurable migration is taking place in the water distribution system. When used on construction sites, it is possible that too much of the adhesive is applied to the threaded joint in connection with improper use. If these amounts are not allowed to react, the contamination of the drinking water may be possible. For this reason, the use in accordance with the specifications is essential. The Industrieverband Klebstoffe e.V. [Association of industrial adhesives] has compiled a recommended course of action:
(http://www.klebstoffe.com/fileadmin/redaktion/ivk/Merkblaetter/Empfehlung_Einsatz_anaerob_haertender_Gewindedichtmittel_im_Trinkwasserbereich.pdf), which contains a description of the proper use.

If the described anaerobic adhesives are used as intended, the quality of the drinking water is not expected to be affected in a negative way.

In our opinion, a declaration of conformity is not required for anaerobic adhesives[1].

[1] The consistent quality of the formulation of the anaerobic adhesives and the traceability of these products can be ensured with in-house quality management systems.
Optionally, the conformity of the formulation of an anaerobic adhesive with the specified reference formulation can be determined by an independent body.