

CIRCULAR LETTER N° 27

an alle Werke ordentlicher Mitglieder  
an die Nachhaltigkeitskommission  
an die Papierkommission  
an die Technische Kommission (einschl. AK Normung)

May 08, 2026

**Heavy metal analysis of corrugated board - including individual measurement values**

Dear Sir or Madam,

In addition to our VDW Circular Letter No. 7/2026, we are pleased to provide you with more detailed information regarding the individual test results for the heavy metal content (cadmium, mercury, chromium (including chromium VI), and lead) of the eight corrugated cardboard samples tested by ISEGA-Forschungs- und Untersuchungsgesellschaft mbH, Aschaffenburg.

**The test results show, that the heavy metal content of a representative corrugated board sample is significantly lower than the defined limit value.**

**Test schedule**

Determination of heavy metal content in eight corrugated cardboard samples (see attachment below).

The determinations were performed following microwave method using AAS/hydride technique or ICP-OES in accordance with DIN EN ISO 12846:2012-08 (Hg) and DIN EN ISO 11885:2009-09 (Pb, Cd, Cr), modified as appropriate for the respective method.

Under the mentioned conditions, the concentrations of lead, mercury, cadmium, and chromium (including chromium VI) were measured.

## Test results:

|           |               |              |        |       |
|-----------|---------------|--------------|--------|-------|
| Sample 1: | lead (Pb):    |              | 3,5    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 2,7    | mg/kg |
| Sample 2: | lead (Pb):    |              | 5,2    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4      | mg/kg |
| Sample 3: | lead (Pb):    |              | 5,8    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,5    | mg/kg |
| Sample 4: | lead (Pb):    |              | 5,4    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,3    | mg/kg |
| Sample 5: | lead (Pb):    |              | 5,9    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,8    | mg/kg |
| Probe 6:  | lead (Pb):    |              | 4,9    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,4    | mg/kg |
| Sample 7: | lead (Pb):    |              | 4,9    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,3    | mg/kg |
| Sample 8: | lead (Pb):    |              | 4,6    | mg/kg |
|           | cadmium (Cd): | not detected | < 0,5  | mg/kg |
|           | mercury (Hg): | not detected | < 0,25 | mg/kg |
|           | chrome (Cr):  |              | 4,2    | mg/kg |

Mit freundlichen Grüßen

VERBAND DER WELLPAPPEN-INDUSTRIE e.V.

*S. Runte*

i.A. Dr.-Ing. Saskia Runte

**Attachment:**

|                  |                     |                                     |                      |
|------------------|---------------------|-------------------------------------|----------------------|
| <u>Sample #1</u> | inner liner:        | kraftliner                          | 135 g/m <sup>2</sup> |
|                  | E-flute:            | wellenstoff                         | 86 g/m <sup>2</sup>  |
|                  | outer liner:        | kraftliner                          | 139 g/m <sup>2</sup> |
| <u>Sample #2</u> | inner liner:        | testliner                           | 131 g/m <sup>2</sup> |
|                  | C- flute:           | wellenstoff                         | 109 g/m <sup>2</sup> |
|                  | intermediate liner: | wellenstoff                         | 87 g/m <sup>2</sup>  |
|                  | B- flute:           | wellenstoff                         | 101 g/m <sup>2</sup> |
|                  | outer liner:        | kraftliner                          | 174 g/m <sup>2</sup> |
| <u>Sample #3</u> | inner liner:        | testliner                           | 129 g/m <sup>2</sup> |
|                  | B- flute:           | testliner                           | 132 g/m <sup>2</sup> |
|                  | intermediate liner: | testliner                           | 131 g/m <sup>2</sup> |
|                  | E- flute:           | testliner                           | 130 g/m <sup>2</sup> |
|                  | outer liner:        | kraftliner white top, printed black | 185 g/m <sup>2</sup> |
| <u>Sample #4</u> | inner liner:        | testliner                           | 137 g/m <sup>2</sup> |
|                  | C- flute:           | wellenstoff                         | 135 g/m <sup>2</sup> |
|                  | intermediate liner: | wellenstoff                         | 83 g/m <sup>2</sup>  |
|                  | B- flute:           | wellenstoff                         | 82 g/m <sup>2</sup>  |
|                  | outer liner:        | kraftliner, printed black           | 172 g/m <sup>2</sup> |
| <u>Sample #5</u> | inner liner:        | testliner                           | 166 g/m <sup>2</sup> |
|                  | C-flute:            | wellenstoff                         | 136 g/m <sup>2</sup> |
|                  | intermediate liner: | testliner                           | 121 g/m <sup>2</sup> |
|                  | B- flute:           | wellenstoff                         | 94 g/m <sup>2</sup>  |
|                  | outer liner:        | testliner                           | 170 g/m <sup>2</sup> |
| <u>Sample #6</u> | inner liner:        | testliner                           | 88 g/m <sup>2</sup>  |
|                  | B-flute:            | wellenstoff                         | 85 g/m <sup>2</sup>  |
|                  | intermediate liner: | wellenstoff                         | 72 g/m <sup>2</sup>  |
|                  | E- flute:           | wellenstoff                         | 88 g/m <sup>2</sup>  |
|                  | outer liner:        | kraftliner, printed blue            | 128 g/m <sup>2</sup> |

|                  |                     |                      |                      |
|------------------|---------------------|----------------------|----------------------|
| <u>Sample #7</u> | inner liner:        | testliner            | 239 g/m <sup>2</sup> |
|                  | C- flute:           | wellenstoff          | 137 g/m <sup>2</sup> |
|                  | intermediate liner: | testliner            | 241 g/m <sup>2</sup> |
|                  | B- flute:           | wellenstoff          | 136 g/m <sup>2</sup> |
|                  | outer liner:        | kraftliner white top | 179 g/m <sup>2</sup> |
| <u>Sample #8</u> | inner liner:        | kraftliner           | 137 g/m <sup>2</sup> |
|                  | B- flute:           | semichemical         | 137 g/m <sup>2</sup> |
|                  | outer liner:        | kraftliner white top | 140 g/m <sup>2</sup> |