

Werk: **Erkelenz Kieswäsche**

Erklärte Leistung / Leistungsverzeichnis mit vollständigen Kennwert-Angaben für die CE-Kennzeichnung; Anlage zur Leistungserklärung Nr. 8.642-1/28

EN 12620:2002+A1:2008 - Gesteinskörnungen für Beton

Zertifikat Nr.: 0778-CPR-8642- 1/28 GKBM

EN 13139:2002/AC:2004 - Gesteinskörnungen für Mörtel

Zertifikat Nr.: 0778-CPR-8642- 1/28 GKBM

EN 13043:2002/AC:2004 - Gesteinskörnungen für Asphalt und Oberflächenbehandlungen für Straßen, Flugplätze und andere Verkehrsflächen

Zertifikat Nr.: 0778-CPR-8642- 1/28 GKA

Angaben zur CE-Kennzeichnung nach System 2+

| Sortennummer | wäschefeucht | 58712 | 58701 | 56741 | 58705 | 58708 | 58710 | 58706 | 58707 | 58709 | 58702 | 58703 | 58704 | | | | |
|--|--------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|--|--|--|--|
| | getrocknet | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | |
| Korngruppe/Korngröße | | 0/1 | 0/2 | 0,5/2 | 2/8 | 8/16 | 16/32 | 2/16 | 2/32 | 8/32 | 0/8 | 0/16 | 0/32 | | | | |
| Überwacht nach EN 12620:2002+A1:2008 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | |
| Überwacht nach EN 13139:2002/AC:2004 | | ● | ● | ● | ● | --- | --- | --- | --- | --- | ● | --- | --- | | | | |
| Überwacht nach EN 13043:2002/AC:2004 | | ● | ● | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | |
| Kategorie Kornzusammensetzung | | G _F 85 | G _F 85 | G _F 85 | G _C 85/20 | G _C 85/20 | G _C 85/20 | G _C 90/15 | G _C 90/15 | G _C 90/15 | G _A 90 | G _A 90 | G _A 90 | | | | |
| Gehalt an Feinanteilen | | f ₃ | f ₃ | f ₃ | f _{1,5} | f _{1,5} | f _{1,5} | f _{1,5} | f _{1,5} | f _{1,5} | f ₃ | f ₃ | f ₃ | | | | |
| Sandäquivalent-Wert [SE] | | SE _{NR} | SE _{NR} | SE _{NR} | --- | --- | --- | --- | --- | --- | SE _{NR} | SE _{NR} | SE _{NR} | | | | |
| Methylenblau-Wert [MB] | | MB _{NR} | MB _{NR} | MB _{NR} | --- | --- | --- | --- | --- | --- | MB _{NR} | MB _{NR} | MB _{NR} | | | | |
| Leichtgewichtige organische Verunreinigungen | | m _{LPC} 0,5 | m _{LPC} 0,25 | m _{LPC} 0,25 | m _{LPC} 0,05 | m _{LPC} 0,05 | m _{LPC} 0,05 | m _{LPC} 0,05 | m _{LPC} 0,05 | m _{LPC} 0,05 | m _{LPC} 0,1 | m _{LPC} 0,1 | m _{LPC} 0,1 | | | | |
| Humusgehalt | | bestanden | bestanden | bestanden | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | |
| Kornform | | --- | --- | --- | FI ₁₅ | FI ₁₅ | FI ₁₅ | FI ₁₅ | FI ₁₅ | FI ₁₅ | --- | --- | --- | | | | |
| Kornrohdichte ρ _a (+/- 0,03) [Mg/m³] | | 2,65 | 2,65 | 2,65 | 2,62 | 2,62 | 2,61 | 2,60 | 2,60 | 2,63 | 2,63 | 2,63 | 2,63 | | | | |
| Wasseraufnahme [% WA] | | 0,6 | 0,6 | 0,6 | 1,5 | 1,1 | 1,0 | 1,3 | 1,3 | --- | --- | --- | --- | | | | |
| Muschelschalengehalt | | --- | --- | --- | SC ₁₀ | SC ₁₀ | SC ₁₀ | SC ₁₀ | SC ₁₀ | SC ₁₀ | --- | --- | --- | | | | |
| Chloride | | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | Cl _{0,02} | | | | |
| Säurelösliches Sulfat | | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | AS _{0,2} | | | | |
| Gesamtschwefel [M.-%] | | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | | | | |
| Carbonatgehalt [M.-%] | | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | | | | |
| Widerstand gegen Alkalikieselsäure-Reaktivität (Alkali Richtlinie 2013-10) | | E I | E I | E I | E I | E I | E I | E I | E I | E I | E I | E I | E I | | | | |

| | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|--|------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|-------------|-------------|--|--|--|--|--|--|--|--|
| Sortennummer | wäschefeucht | 58712 | 58701 | 56741 | 58705 | 58708 | 58710 | 58706 | 58707 | 58709 | 58702 | 58703 | 58704 | | | | | | | | |
| | getrocknet | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | | | | |
| Korngruppe/Korngröße | | 0/1 | 0/2 | 0,5/2 | 2/8 | 8/16 | 16/32 | 2/16 | 2/32 | 8/32 | 0/8 | 0/16 | 0/32 | | | | | | | | |
| Frostwiderstand | | --- | --- | --- | F ₁ | F ₁ | F ₁ | F ₁ | F ₁ | F ₁ | --- | --- | --- | | | | | | | | |
| Magnesiumsulfat-Beständigkeit | | --- | --- | --- | MS ₁₈ | MS ₁₈ | MS ₁₈ | MS ₁₈ | MS ₁₈ | MS ₁₈ | --- | --- | --- | | | | | | | | |
| Frost - Tausalz-Beständigkeit | | --- | --- | --- | F _{EC5} | F _{EC5} | F _{EC5} | F _{EC5} | F _{EC5} | F _{EC5} | --- | --- | --- | | | | | | | | |
| Fließkoeffizient (E _{CS} angegeben +/- 2) | | E _{CS} ang.26 | E _{CS} ang.28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | | | | |
| Widerstand gegen Zertrümmerung | | --- | --- | --- | LA _{NR} | LA _{NR} | LA _{NR} | LA _{NR} | LA _{NR} | LA _{NR} | --- | --- | --- | | | | | | | | |
| Widerstand gegen Verschleiß | | --- | --- | --- | M _{DE} NR | M _{DE} NR | M _{DE} NR | M _{DE} NR | M _{DE} NR | M _{DE} NR | --- | --- | --- | | | | | | | | |
| Widerstand gegen Polieren | | --- | --- | --- | PSV _{NR} | PSV _{NR} | PSV _{NR} | PSV _{NR} | PSV _{NR} | PSV _{NR} | --- | --- | --- | | | | | | | | |
| Widerstand gegen Oberflächenabrieb | | --- | --- | --- | AAV _{NR} | AAV _{NR} | AAV _{NR} | AAV _{NR} | AAV _{NR} | AAV _{NR} | --- | --- | --- | | | | | | | | |
| Widerstand gegen Spike-Reifen | | --- | --- | --- | A _N NR | A _N NR | A _N NR | A _N NR | A _N NR | A _N NR | --- | --- | --- | | | | | | | | |
| Schwinden infolge Austrocknung | | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | | | | | | | | |
| Freisetzung von Radioaktivität | | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | | | | | | | | |
| Freisetzung von Schwermetallen | | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | | | | | | | | |
| Freisetzung von polyaromatischen Kohlenwasserstoffen | | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | | | | | | | | |
| Freisetzung anderer gefährlicher Substanzen | | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | NPD | | | | | | | | |
| Petrographischer Typ | | Quartär und Tertiär der südöstlichen Krefelder Scholle | | | | | | | | | | | | | | | | | | | |

| Typische Kornzusammensetzungen | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|------------|---------------------------------------|-------|------|-------|-----|------|-----|----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-------------------------|---|-------------|
| Sorte Nr: | Korngruppe | werktypische Kornzusammensetzung | | | | | | | | | | | | | | | | | | | Toleranzkategorie nach: | | |
| | | Durchgang durch das Sieb (mm) in M.-% | | | | | | | | | | | | | | | | | | | | | |
| | | 0,063 | 0,125 | 0,25 | 0,355 | 0,5 | 0,71 | 0,8 | 1 | 1,4 | 1,8 | 2 | 2,24 | 2,5 | 2,8 | 3,15 | 4 | 4,5 | 5,6 | 6,3 | | 8 | |
| 58712 | 0/1 | 0,7 | 3 | 25 | --- | 75 | --- | --- | 98 | 99 | --- | 100 | | | | | | | | | | | Tabelle 4 |
| 58701 | 0/2 | 0,5 | 1 | 11 | --- | 45 | --- | --- | 84 | --- | --- | 98 | --- | --- | 99 | --- | 100 | | | | | | Tabelle C.1 |
| 56741 | 0,5/2 | 0,1 | 0,2 | 0,7 | --- | 13 | --- | --- | 57 | --- | --- | 93 | --- | --- | 99 | --- | 100 | | | | | | Tabelle C.1 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

| Sorte Nr: | Korngruppe | 0,063 | 0,125 | 0,25 | 0,5 | 1 | 1,4 | 2 | 2,8 | 4 | 5,6 | 8 | 11,2 | 16 | 22,4 | 31,5 | 45 | 56 | 63 | | | | | Toleranzkategorie nach: |
|-----------|------------|-------|-------|------|-----|-----|-----|-----|-----|----|-----|----|------|-----|------|------|-----|-----|-----|--|--|--|--|-------------------------|
| 58702 | 0/8 | 1 | --- | --- | --- | 57 | --- | 74 | --- | 86 | --- | 99 | 100 | 100 | | | | | | | | | | Tabelle 6 |
| 58703 | 0/16 | 1 | --- | --- | --- | --- | --- | 47 | --- | 55 | --- | 66 | --- | 96 | 100 | 100 | | | | | | | | Tabelle 6 |
| 58704 | 0/32 | 1 | --- | --- | --- | --- | --- | --- | --- | 52 | --- | 61 | --- | 75 | 88 | 99 | 100 | --- | 100 | | | | | Tabelle 6 |
| 58710 | 16/32 | 1 | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 2 | --- | 6 | 63 | 98 | 100 | --- | 100 | | | | | keine Anforderungen |

| Sorte Nr: | Korngruppe | Grenzwerte gem. Tabelle 6 (+/- 20 % absolut) als Massenanteil für den Siebdurchgang durch die unten angegebenen Siebe | | | | | Kornzusammensetzung | Feinanteile | Kategorien |
|-----------|------------|---|----|----|----|----|---------------------|-------------|--|
| | | 1 | 2 | 4 | 8 | 16 | | | |
| 58702 | 0/8 | 40 | | 70 | | | G_{A90} | f_3 | Ggfs. Zusammensetzung nach Kundenwunsch abweichend von den Normvorgaben. Mischungsverhältnis siehe Lieferschein. |
| 58703 | 0/16 | | 40 | | 70 | | G_{A90} | f_3 | |
| 58704 | 0/32 | | | 40 | | 70 | G_{A90} | f_3 | |

weitere Kennwerte / Eigenschaften

Folgende Kennwerte und Eigenschaften wurden im Rahmen der Eigenüberwachung, außerhalb des Geltungsbereichs der Verbändeempfehlung sowie der CE Kennzeichnungspflicht ermittelt.

| Sortennummer | wäschefeucht | 58712 | 58701 | 56741 | 58705 | 58708 | 58710 | 58706 | 58707 | 58709 | 58702 | 58703 | 58704 | | | | | |
|--|--------------|----------------|----------------|--------------|------------|-------------|--------------|-------------|-------------|-------------|------------|-------------|-------------|--|--|--|--|--|
| | getrocknet | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Korngruppe/Korngröße | | 0/1 | 0/2 | 0,5/2 | 2/8 | 8/16 | 16/32 | 2/16 | 2/32 | 8/32 | 0/8 | 0/16 | 0/32 | | | | | |
| Fließkoeffizient | | $E_{CSang.26}$ | $E_{CSang.28}$ | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Methylenblau-Wert [MB] | | 0,5 | 0,5 | 0,3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Grobheit der Korngruppe | | <i>FP</i> | <i>MP</i> | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Feinheitsmodul | | $FF = 2,0$ | $CF = 2,6$ | $CF = 3,4$ | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Bestimmung des Polierwertes "Wehner Schulze" PWS | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Schüttdichte trocken (locker) [Mg/m ³] | | 1,48 | 1,51 | --- | 1,47 | 1,46 | 1,44 | --- | --- | --- | --- | --- | --- | | | | | |
| Schüttdichte tr. (eingerüttelt) [Mg/m ³] | | --- | 1,76 | --- | 1,68 | 1,64 | 1,61 | --- | --- | --- | --- | --- | --- | | | | | |
| Hohlraumgehalt tr. (eingerüttelt) [%] | | --- | 30 | --- | 36 | 37 | 38 | --- | --- | --- | --- | --- | --- | | | | | |
| Widerstand gegen Zertrümmerung | | --- | --- | --- | --- | LA_{35} | --- | --- | --- | --- | --- | --- | --- | | | | | |
| Widerstand gegen Verschleiß | | --- | --- | --- | --- | M_{DE15} | --- | --- | --- | --- | --- | --- | --- | | | | | |

| Glühverlust Sand 0/2 | Dauer 1 h |
|----------------------|-----------|
| bei 550°C [%] | 0,5 |
| bei 1050°C [%] | 0,7 |

| pH-Wert (0/2) |
|------------------------------|
| $pH_{(CaCl_2, 0,01mol/l)} =$ |
| 8,0 |

| Elementanalyse am Sand 0/2 mittels RFA | | | | | | | | |
|--|------------------|--------------------------------|--------------------------------|-------|-------|-------------------|------------------|------------------|
| | SiO ₂ | Fe ₂ O ₃ | Al ₂ O ₃ | CaO | MgO | Na ₂ O | K ₂ O | TiO ₂ |
| [%] | 97,1 | 0,22 | 1,64 | < 0,1 | < 0,2 | 0,21 | 0,90 | < 0,2 |