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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PIPELINES DEPARTMENT CHLORINE DOSE CALCULATIONS** | | | | | | | | | | | | | | |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Example:** | | | | | | | |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| Diameter of pipe = **200mm** | | | | | | | | | |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| Length of pipe = **140m** | | | | | | | | |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Chlorine concentration required is 20g/m3 for shock dosing** | | | | | | | | | | | | | |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Chlorine type is HTH powder at 60-65% strength** | | | | | | | | | | | |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| Convert millimetres to meters;  **200mm = 0.20m** | | | | | | | | | | | | |  |  |
| **1000mm/m** | | | | | | | | | | | |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| Formulae for volume of pipe is π r2 x L | | | | | | | | | | |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| r = D  **r = 0.20m = 0.1m** | | | | | | | | | |  |  |  |  |  |
| 2 | | | | | | | **2** |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| V = π x 0.1 x 0.1 x 140m | | | | | | | | |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| V = **4.398m3** | | | | | | | |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Weight of chlorine to be added:** | | | | | | | | | |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| 4.398m3 x 20.0g/m3 x **87.96g** | | | | | | | | | |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **HTH is 60% available chlorine** | | | | | | | | | |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| 87.96g x 100% = **146.60g**  60% | | | | | | | | | |  |  |  |  |  |
|  |  |  |  |  |  |
| **Convert to kg** | | | | | | | |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| 146.60g = **0.146kg** | | | | | | | | |  |  |  |  |  |  |
| 1000g/kg | | | | | | | |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Leave in main for 24 hours** | | | | | | | | | |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
|  | | | | | | |  |  |  |  |  |  |  |  |
| **Note:** Refer to the WWL Distribution Section Procedures Manual For Further | | | | | | | | | | | | | | |
| Information On Disinfection & De-Chlorination Procedures | | | | | | | | | | | | | |  |