

|  |
| --- |
| **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 |  |