The Manning formula is an empirical equation used in fluid mechanics to estimate the flow rate of water in open channels, such as rivers, streams, or canals.

* Q is the flow rate (volume of water passing through a cross-section per unit time).
* n is the Manning's roughness coefficient (a dimensionless parameter representing the resistance to flow caused by the channel's roughness).
* A is the cross-sectional area of flow.
* R is the hydraulic radius (the ratio of the cross-sectional area to the wetted perimeter).
* S is the slope of the channel bed (also known as the energy gradient or hydraulic gradient).

|  |  |
| --- | --- |
| Field | Value |
| m | 1.5 |
| height (h) | 1.0 |
| slope (-) | 0.02 |
| discharge (m3/s) | 1.0 |
| manning coeffiecoent (-) | 0.01 |

Below the results are attached

|  |  |
| --- | --- |
| Field | Value |
| Wetted Area (m2) | 0.27 |
| Velocity (m/s) | 3.71 |
| Wetted\_perimeter (m) | 1.53 |
| Hydraulic\_radius (m) | 0.18 |

