# Table: Grades

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| **Schema:** | SystemSchematicBuilder |
| **Responsible:** | Kurt A Vedros |

Table holds all information on potential grade of the part.

Grade – The plumbing grade of the part object. Grade is mainly used to determine the flow rate and pressure throughout the system.

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| **Column Name** | **Data type** | **Description** |
| GradeID | Int | Primary Key to Grades Table |
| Name | String | The proper United States plumbing artisan name given to the grade. |
| MinYieldStr | Float | This is the minimum yield strength the piping can handle, given in PSI |
| MaxYieldStr | Float | This is the maximum yield strength the piping can handle, given in PSI |
| MinTensileStr | Float | This is the minimum tensile strength the piping can handle, given in PSI |
| MaxTensileStr | Float | This is the maximum tensile strength the piping can handle, given in PSI |

**Procedures (Database functions)**

* sprocGetGrades
  + Returns a list of Grade objects that are currently stored in the database.
* sprocGetGrade
  + Returns a Grade object that is currently stored in the database that has the given Grade ID number.
* sproc\_GradeAdd
  + Stores the given Grade object into the database and returns its assigned Grade ID number.
* sproc\_GradeUpdate
  + Changes information of the Grades Table in the database with the given primary key to the given Grade class object.
* sproc\_GradeRemove
  + Removes the Grade from the Grades Table with the given Grade ID number.

**DAL (Software Functions)**

* GradesGetAll()
  + Returns a list of Grade objects that are currently stored in the database.
* GradeGet(int ID)
  + Returns a Grade object that is currently stored in the database that has the given Grade ID number.
* GradeAdd(Grade Grade)
  + Stores the given Grade object into the database and returns its assigned Grade ID number. Returns -1 if error occurred, otherwise returns null.
* GradeUpdate(Grade Grade)
  + Changes a Grade object that is currently stored in the database with the given Grade’s Grade.ID with the Grade’s information.
* GradeRemove(int ID)
  + Removes the Grade object stored in the database with the given Grade ID number. Returns -1 if error occurred, otherwise returns null.