

Tekla EPM 2019

Set up the material database

April 2019

Contents

1	Set up the material database.....	3
1.1	View the material database.....	4
1.2	Find shapes, grades, dimensions, or shape abbreviations.....	5
1.3	Manage shapes.....	5
	Add shapes.....	8
	Activate or deactivate shapes.....	10
	Deactivate shapes.....	10
	Activate shapes.....	11
	Add, modify, and delete shape abbreviations.....	11
	Add a shape abbreviation.....	11
	Modify a shape abbreviation.....	12
	Delete shape abbreviations.....	12
	Export shapes.....	12
	Delete shapes.....	14
1.4	Manage grades	14
	Add, modify, and delete grades.....	16
	Add grades.....	16
	Modify grades.....	16
	Delete grades.....	17
	Add grade substitutions.....	17
	Add grade redirections.....	18
1.5	Manage dimensions.....	18
	View the dimensions of a shape.....	20
	Add dimensions.....	20
	Modify dimension properties.....	22
	Modify the properties of multiple dimensions.....	24
	Update dimension weights for newly added shapes.....	25
	Add grade overrides.....	25
	Add alternate dimensions.....	26
	Show where dimensions are used.....	26
	Delete dimensions.....	27
1.6	Manage material reports.....	28
	Create material reports.....	28
	View material reports.....	29
	Print material reports.....	29
	Send material reports via email.....	30
	Export material reports.....	30
1.7	Change the display units of prices.....	31
1.8	Switch the material information to metric/imperial mode.....	31

1 Set up the material database

The materials in the material database are the foundation of all material calculations in Tekla EPM, so adjusting the materials according to the needs of your company is extremely important. This user guide covers adding, modifying, and deleting material shapes, grades, and dimensions.

Tekla EPM contains a variety of different materials. You can also add any materials you need to the material database. Note that you can also add material items that are not steel, from equipment and consumables to office supplies. Tekla EPM accepts a variety of property formats used to assist with material calculations for weights, pricing, and surface area for coating.

The information in the **Shape / Grade / Size Maintenance** dialog box provides the basic selections associated with a new shape. The **Shape / Grade / Size Maintenance** dialog box is where you can add new material shapes, and modify or delete existing shapes.

If you add dimensions for shapes by importing them, remember to check the database for dimensions that do not have complete properties. You can easily find any dimensions like this by creating a zero weight report. For detailed instructions on creating a report, see [Create material reports \(page 28\)](#).

When a new shape is added to the material database, the shape and its dimensions, grades, and material lengths also need to be added to the pricing database. The pricing database is where Tekla EPM looks for the material sizes and lengths for combining materials. Adding the materials to pricing is important because materials are combined in various modules, including **Combining, Estimating, Production Control, Purchasing, and Order Entry**. For more information, see .

See also

[View the material database \(page 4\)](#)

[Find shapes, grades, dimensions, or shape abbreviations \(page 4\)](#)

[Manage shapes \(page 5\)](#)

[Manage grades \(page 14\)](#)

[Manage dimensions \(page 18\)](#)

[Manage material reports \(page 28\)](#)

[Change the display units of prices \(page 31\)](#)

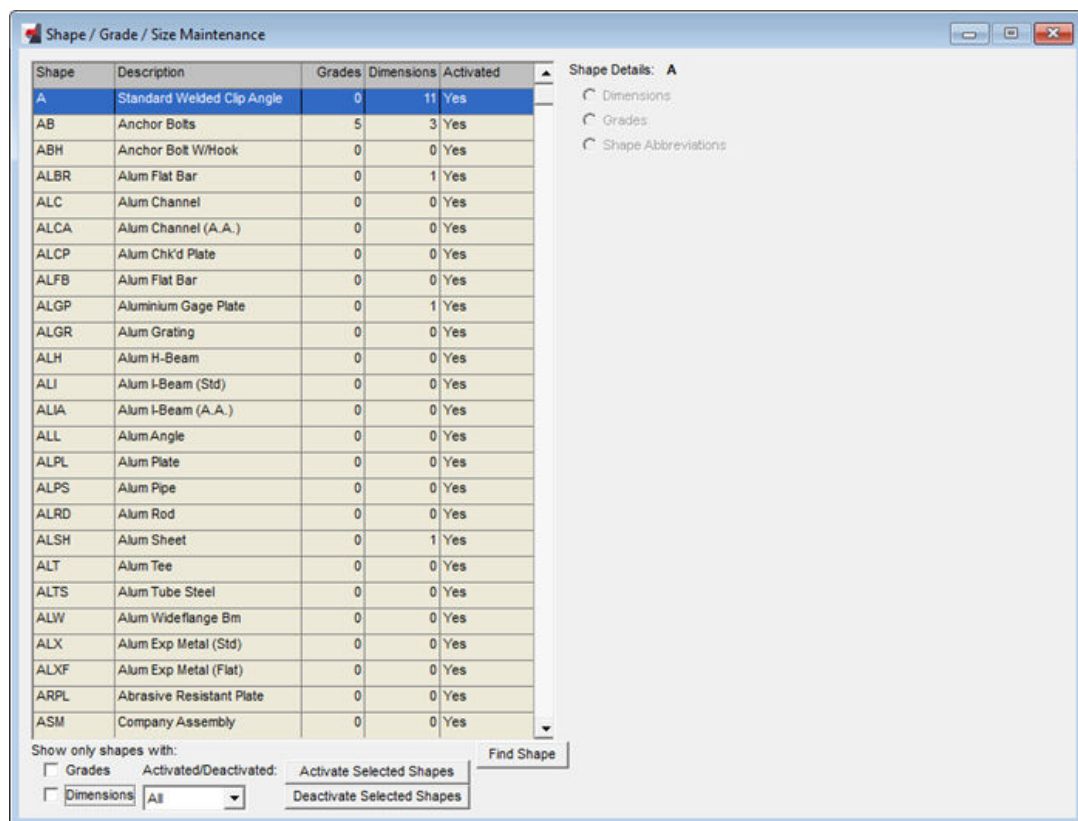
[Switch the material information to metric/imperial mode \(page 31\)](#)

1.1 View the material database

To access the material database and view all existing materials in Tekla EPM, do the following:

1. Click the **Maintenance** ribbon tab.
2. In the menu, select **Shapes/Grades/Sizes**.

The **Shape / Grade / Size Maintenance** dialog box opens, showing all or some shapes in the material database.



The shapes that are shown depend on your selections at the bottom-left corner of the **Shape / Grade / Size Maintenance** dialog box. You can select to only show shapes with grades or dimensions, or only show activated or deactivated shapes.

1.2 Find shapes, grades, dimensions, or shape abbreviations

Use the **Find** commands to find material shapes, grades, dimensions, and shape abbreviations in the **Shape / Grade / Size Maintenance** dialog box without scrolling.

1. In the **Shape / Grade / Size Maintenance** dialog box, do any of the following:
 - To find a shape, click **Find Shape** at the bottom of the dialog box.
Note that the shapes that you can search for depend on your selections at the bottom-left corner of the **Shape / Grade / Size Maintenance** dialog box. For example, if you have selected to only show shapes with grades, you can only search for shapes with grades using the **Find Shape** command.
 - To find a material dimension, select the **Dimensions** option at the top of the dialog box. Then, select the shape whose dimensions you want to view, and click **Find Size**.
 - To find a material grade, select the **Grades** option at the top of the dialog box. Then, select the shape whose grades you want to view, and click **Find Grade**.
 - To find a shape abbreviation, select the **Shape Abbreviations** option at the top of the dialog box. Then, select the shape whose abbreviations you want to view, and click **Find Abbreviation**.
2. In the **Find** dialog box, type the item name in the field.
Note that when searching for a dimension, you need to leave a space on both sides of \times . For example, 3 \times 3 \times 1/4.
3. Click **Find**.

The item that you searched for is now selected in the **Shape / Grade / Size Maintenance** dialog box.

1.3 Manage shapes

In the **Shape / Grade / Size Maintenance** dialog box, you can manage shapes in several ways. You can add and delete shapes, and activate or deactivate shapes. In addition, you can add grades, dimensions, and abbreviations for shapes.

The shape list in the **Shape / Grade / Size Maintenance** dialog box lists all existing shapes in alphabetical order.

Note that the list also contains system shapes that users cannot modify. Many of these system shapes may be missing some of the actual shape information, such as material grades or dimensions. These shapes are added for user

convenience. If necessary, you can add material grades or dimensions for the shapes, or deactivate the shapes.

If you want to, you can use separate shapes for materials that may have the same or similar shape but have a different grade. You can use the system shapes for this purpose by adding dimensions or grades for them according to your needs.

The shape list shows the different details of shapes:

Shape	Description	Grades	Dimensions	Activated
A	Standard Welded Clip Angle	0	14	Yes
AB	Anchor Bolts	4	1	Yes
ABH	Anchor Bolt W/Hook	0	1	Yes
ALBR	Alum Flat Bar	0	1	Yes
ALC	Alum Channel	0	2	Yes
ALCP	Alum Chk'd Plate	0	1	No
ALGP	Aluminium Gage Plate	0	1	Yes
ALSH	Alum Sheet	0	1	Yes
ATRD	All-Threaded Rod	1	192	Yes
AW	Standard Welded Clip Angle	0	14	Yes
B	Standard Bolted Clip Angle	0	14	Yes
BAR	Bar	2	111	Yes
BB	Standard Bolted Clip Angle	0	14	Yes
BO	Bolts	10	139	Yes
C	Channel	4	36	Yes
CPGA	Checkered Plate - Gage	0	3	Yes
CR	Crane Rail	0	8	Yes
CRRD	Cold Rolled Round	0	45	Yes
EXB	Expansion Bolts	0	139	Yes
FB	Flat Bar	4	96	Yes
HP	H-Piles	1	25	No
HS	High Strength Bolt	3	140	Yes
HSS	Hollow Structural Section	5	382	Yes
HSSR	Hollow Structural Section - R	3	156	Yes
L	Angle	4	142	Yes

- The **Shape** column lists the abbreviations for the material shape.

Abbreviations are common references that Tekla EPM uses to recognize a particular shape. For example, when you import a bill of material, Tekla EPM searches for a match in the shape list. If no match is found, Tekla EPM asks you to select one. For example, this could happen if flat bars were referenced as FL instead of FB to.

The material database also contains shapes that are identical but can be found under two abbreviations, such as HSS and TS. Both abbreviations are

available in the database to meet the needs of companies that use different terminology. Note that even though the two options are available, you should select one of them and use it consistently. This way, you can avoid problems when combining materials.

The abbreviation is defined when adding a new shape. New abbreviations can also be added to enable cross-referencing in Tekla EPM.

- The **Description** column shows the name of the shape.
- The **Grades** column shows the number of grades included for the shape.
- The **Dimensions** column shows the number of dimensions, or material sizes, included for the shape.
- The **Activated** column shows whether a shape is active within Tekla EPM. Deactivated shapes, marked with **No**, are not available for combining or pricing.

See also

[Add shapes \(page 8\)](#)

[Activate or deactivate shapes \(page 10\)](#)

[Add, modify, and delete shape abbreviations \(page 11\)](#)

[Export shapes \(page 12\)](#)

[Delete shapes \(page 14\)](#)

Add shapes

If a necessary material shape is missing from the Tekla EPM material database, you can add new shapes to the database. Note that you can only modify particular shape properties after the shape has been added to the shape list. If properties that cannot be modified need to be changed, you need to delete the shape and create a new one.

1. While in the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Shape Maintenance**.

The **Shape Maintenance** dialog box opens, showing the existing shapes in the material database. Note that each shape in the **Shape Maintenance** dialog box belongs to one of six material groups: angles, beams, plates, rods, tubes, or none. All material groups have their own dimension property sets that determine how the dimension properties are calculated.

Each shape has the following columns:

- **Description:** each dimension property has a description in both imperial and metric units.

- **Dynamic:** determines what kind of entries the shape accepts. If **Dynamic** is set to **Yes**, the shape accepts any entry that the user enters as dimension. If **Dynamic** is set to **No**, the dimensions of the shape need to be added to the list.

Note that if you select **Yes**, you cannot assign weights or other dimension properties for the shape.

- **Length:** shows if the dimension has length or if the descriptions contain the length. If the dimension descriptions contain the length or the dimension does not have length, **Length** is set to **No**. If the descriptions do not contain the length, but the dimension has a length, **Length** is set to **Yes**.
- **Property:** shows the weight calculation format of the dimension. You can view the details of the format in the **Property Formats** list at the bottom of the dialog box.
- **Sur. Area:** shows the surface area calculation format of the dimension. You can view the details of the format in the **Surface Area Formats** list in the bottom-right corner of the dialog box.

Note that some shapes also have qualified alternate dimension properties that you can select to use. In this case, the **Change Dimensions** list appears near the upper-right corner of the dialog box. You can select the alternate properties in the list.

3. In the shape list of the **Shape Maintenance** dialog box, select a shape that has as similar properties as possible to the shape that you want to add.

For example, when adding deformed bar anchors, you may want to select the anchor bolts shape, whose properties are calculated in the same way. This way, you do not have to modify the shape properties too much.

4. At the bottom of the dialog box, click **New**.
5. In the **Shape** field, enter an abbreviation for the shape.
You can use any abbreviation that is not currently used by another shape.
6. Enter a description for the shape.
7. In the **Material Group** list, select a suitable group for the shape.

The **Material Group** determines how Tekla EPM to calculates weight and estimates labor.

Note that if you select the **None** material group, Tekla EPM cannot calculate labor for the shape in the **Estimating** module.

8. Select the price and weight format for the shape.
9. In the **Combining** list, select if the shape can be multied or nested.

10. If you want Tekla EPM to always look for a piece mark association when importing items of the shape, select the **PDC - Piece Mark Required** check box.

If piece marks are not used, you can leave the check box unselected. Whether you use piece marks or not is defined in your company standard settings.
11. If you do not want to allow piece tracking for the shape, select the **Exclude from Instance Tracking** check box.

Selecting the **Exclude from Instance Tracking** check box is especially useful for items like hardware.
12. Click **Add**.

The new shape is added to the shape list.
13. To close the **Shape Maintenance** dialog box, click the **Close** button (X) in the upper-right corner.
14. In the **Shape / Grade / Size Maintenance** dialog box, add dimensions, grades, abbreviations, and other properties for the shape according to your needs.

See also

[Add dimensions \(page 20\)](#)

[Add, modify, and delete grades \(page 16\)](#)

[Add, modify, and delete shape abbreviations \(page 11\)](#)

[Export shapes \(page 12\)](#)

[Delete shapes \(page 14\)](#)

Activate or deactivate shapes

In the **Shape / Grade / Size Maintenance** dialog box, you can activate and deactivate shapes to enable or disable using the shapes in Tekla EPM. You can also use the **Activated/Deactivated** list to select if you want to display activated, deactivated, or all shapes.

According to your needs, see any of the following instructions:

Deactivate shapes

NOTE We recommend that you deactivate shapes instead of deleting them, because you can always activate the shapes if you need to use them later.

1. Select the shapes that you want to deactivate.

To select multiple items, hold down **Ctrl**.

To select a range of subsequent items, hold down **Shift**.

2. Click **Deactivate Selected Shapes**.
3. To confirm deactivating the shapes, click **Yes** in the confirmation dialog box.

The deactivated shapes are no longer available for Tekla EPM to use in combining and pricing. You can re-activate deactivated shapes at any time.

Activate shapes

1. To only display the currently deactivated shapes, in the **Activated/Deactivated** list, select **Deactivated**.
2. Select the shapes that you want to activate.
To select multiple items, hold down **Ctrl**.
To select a range of subsequent items, hold down **Shift**.
3. Click **Activate Selected Shapes**.
4. To confirm activating the shapes, click **Yes** in the confirmation dialog box.

Add, modify, and delete shape abbreviations

Shape abbreviations allow Tekla EPM to identify a shape. In the **Shape / Grade / Size Maintenance** dialog box, you can add abbreviations for shapes. This can be useful when you are importing a bill of materials that contains shape abbreviations that Tekla EPM does not recognize.

If you are importing a bill of materials and Tekla EPM does not recognize an abbreviation, Tekla EPM automatically prompts you to select the shape and grade that the abbreviation should redirect to. Then, Tekla EPM asks you if you want to add an abbreviation for the imported shape.

We recommend that you keep the detailers up to date on the used shape abbreviations, so that you can minimize the need to create new shape abbreviations.

According to your needs, see any of the following instructions:

Add a shape abbreviation

1. In the shape list of the **Shape / Grade / Size Maintenance** dialog box, select a shape.
2. Select the **Shape Abbreviations** option.
The existing abbreviations for the selected shape appear in the **Abbreviation** list.

3. At the bottom of the dialog box, click **Add Abbreviation**.
4. In the **Abbreviation** field, type a letter combination or a number.
5. Click **Save**.

The abbreviation is added for the selected shape. If necessary, you can delete previous abbreviations.

Modify a shape abbreviation

1. In the table of the **Shape / Grade / Size Maintenance** dialog box, select a shape.
2. Select the **Shape Abbreviations** option.
The existing abbreviations for the selected shape appear in the **Abbreviation** list.
3. In the **Abbreviation** list, select the item that you want to modify.
4. At the bottom of the dialog box, click **Edit Abbreviation**.
5. Modify the abbreviation.
6. Click **Save**.

The abbreviation is updated.

Delete shape abbreviations

1. In the table of the **Shape / Grade / Size Maintenance** dialog box, select a shape.
2. Select the **Shape Abbreviations** option.
The existing abbreviations for the selected shape appear in the **Abbreviation** list.
3. In the **Abbreviation** list, select the item that you want to delete.
4. At the bottom of the dialog box, click **Delete Abbreviation**.
5. To permanently delete the abbreviation, click **Yes** in the confirmation dialog box.

Export shapes

Exporting shape information is useful for making shape identification changes while keeping all of the information defined in Tekla EPM. You can export either specific shapes or all shapes to ASCII or XML format.

1. In the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Export** and the export format.

3. If you only want to export particular shapes, in the **Filter** dialog box, click the arrow buttons to move the shapes that you want to export to the **Included** list.
4. Click **OK**.
5. In the **Save As** dialog box, browse to the folder where you want to save the file.
By default, Tekla EPM saves the file to the **Export** folder.
6. If necessary, modify the file name.
7. Click **Save**.

The exported shapes are saved to the selected location.

Example: Changing the shape abbreviation FB to FL

For example, you could change a material shape abbreviation for FB (flat bar) to read as FL (also an indicator for flat bar). This change may be made outside of FabSuite in an ASCII file. After the revisions, the same list can be imported back to Tekla EPM.

To change the shape abbreviation, do the following:

1. In the **Filter** dialog box, only move FB shapes to to the **Included** list.
2. Name and save the file to the desired location.
3. Browse to find the saved file and open it in Notepad.
4. Click the **Edit** tab at the top left corner of the window.
5. Click **Replace**.
6. In the **Find what** field, type `FB`.
7. In the **Replace with** field, type `FL`.
8. Click **Replace All** and save the file.
9. In Tekla EPM, click the **File** ribbon tab, and select **Import** in the **File** menu.
10. In the navigation tree of the **Import** dialog box, select **Sizes --> ASCII**.
11. Click **...** to browse for and select the updated file.
12. Click **OK**.
13. Click **Import**.

Since the ASCII file only contains the flat bar shapes, you do not need to filter the shapes. Instead, you can leave all shapes in the **Included** list.

14. Click **OK**.

The new shape list is imported to Tekla EPM, and the abbreviation of flat bars changes.

See also

[Add shapes \(page 8\)](#)

[Add, modify, and delete shape abbreviations \(page 11\)](#)

[Delete shapes \(page 14\)](#)

Delete shapes

If necessary, you can delete unnecessary shapes from the shape list. For example, you might need to delete a shape whose properties are incorrect. Note that when you delete a shape in the **Shape Maintenance** dialog box, the shape and its properties are permanently deleted from Tekla EPM. Shapes that are currently used somewhere in Tekla EPM cannot be deleted.

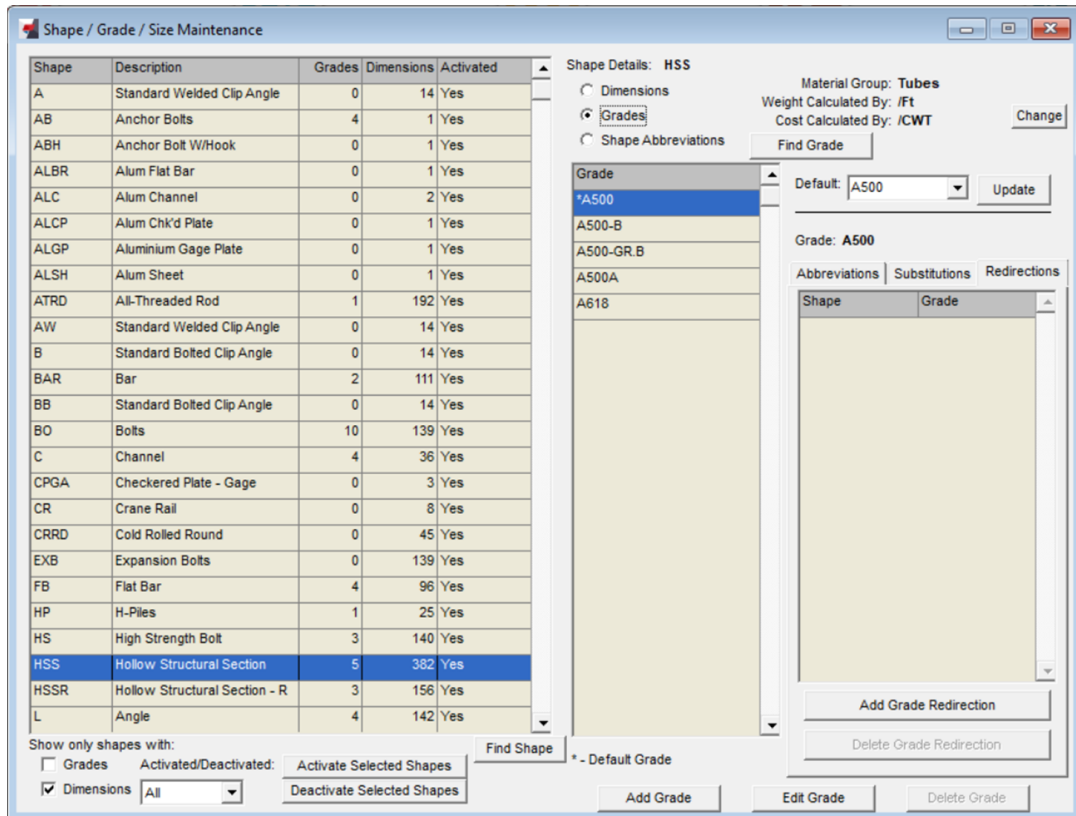
NOTE We recommend that you deactivate shapes instead of deleting them, because you can always activate the shapes if you need to use them later.

1. In the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Shape Maintenance**.
3. In the shape list of the **Shape Maintenance** dialog box, select the shape that you want to delete.
4. At the bottom of the dialog box, click **Delete**.
5. To permanently delete the shape from Tekla EPM, click **Yes** in the confirmation dialog box.

1.4 Manage grades

In the **Shape / Grade / Size Maintenance** dialog box, you can manage material grades in multiple ways. You can add, modify, and delete grades, set the default grade of a shape, and add grade overrides, grade redirections, and grade substitutions.

- To view and modify grade properties, select the **Grade** option at the top of the **Shape / Grade / Size Maintenance** dialog box.



The **Shape / Grade / Size Maintenance** dialog box shows the different grade details of the shape:

- The **Grade** list shows all available material grades included for the selected shape.

To view the properties of a specific material grade, select it in the list.

- Each shape with grades has a default grade that Tekla EPM uses for the shape by default. The default grade of the shape is marked with an asterisk (*).

You can change the default grade by selecting another grade in the **Default** list, and clicking **Update**.

- The **Abbreviations** tab shows the grade abbreviations added for the selected grade.
- The **Substitutions** tab shows the existing grade substitutions of the selected grade.

Grade substitutions allow Tekla EPM to combine materials to material grades in the inventory that do not match the material grade in the bill of materials. Creating grade substitutions can be useful when very little material of a certain grade is needed, so another grade can be used instead.

You can add and delete grade substitutions, and increase or decrease the order of grade substitutions.

- The **Redirections** tab shows the existing grade redirections of the selected grade.

Grade redirections allow Tekla EPM to recognize material grades that are imported to Tekla EPM with names that Tekla EPM does not initially recognize. When you use grade redirections, the imported material grades are redirected to the appropriate material grades.

You can add and delete grade redirections according to your needs.

See also

[Add, modify, and delete grades \(page 16\)](#)

[Add grade substitutions \(page 17\)](#)

[Add grade redirections \(page 18\)](#)

Add, modify, and delete grades

In the **Shape / Grade / Size Maintenance** dialog box, you can add material grades for a selected shape, modify the properties of existing grades, or delete unnecessary grades. You can also add, modify, or delete grade abbreviations.

According to your needs, see any of the following instructions:

Add grades

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Grades** option.
2. In the shape list, select a shape.
3. At the bottom of the dialog box, click **Add Grade**.
4. In the **Grade** field of the **Grade** dialog box, type the new grade.
5. If necessary, modify the weight multiplier.
6. If necessary, click **Abbreviation** to add an abbreviation for the grade.
7. In the **Grade Abbreviation** dialog box, type the abbreviation that you want to add for the grade.
8. To save the abbreviation, click **Save**.
9. To add the grade for the shape, in the **Grade** dialog box, click **Save**.

The material grade is added to the **Grade** list of the selected shape.

Modify grades

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Grades** option.

2. In the shape list, select a shape.
3. In the **Grade** list, select the grade that you want to modify.
4. At the bottom of the dialog box, click **Edit Grade**.
5. In the **Grade** dialog box, do one or more of the following to modify the grade:
 - In the **Grade** field, type a new name for the grade.
 - Modify the weight multiplier value.
 - Add, modify, or delete abbreviations by clicking the buttons in the **Grade** dialog box.
6. Click **Save**.

The grade properties are updated.

Delete grades

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Grades** option button.
2. In the shape list, select a shape.
3. In the **Grade** list, select the grade that you want to delete.
4. At the bottom of the dialog box, click **Delete Grade**.
5. To permanently delete the grade, click **Yes** in the confirmation dialog box.

Add grade substitutions

Grade substitutions allow Tekla EPM to combine materials to material grades in the inventory that do not match the material grade in the bill of materials. Creating grade substitutions can be useful when very little material of a certain grade is needed, so another grade can be used instead. Grade substitutions need to be created separately for each job.

Note that you should only add grade substitutions that meet or exceed the requirements of the current grade.

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Grades** option.
2. In the shape list, select a shape.
3. In the **Grade** list, select a grade.
4. On the right side of the dialog box, open the **Substitutions** tab.
5. Click **Add Grade Sub**.
6. In the **Select a substitute grade** list, select a substitute grade.

7. Click **OK**.

The new grade substitution is added to the list.

8. Use the **Increase Use Order** and **Decrease Use Order** to move the grade up or down in the list, changing the order in which Tekla EPM uses the substitute grades.

See also

[Add, modify, and delete grades \(page 16\)](#)

[Add grade redirections \(page 18\)](#)

Add grade redirections

Grade redirections allow Tekla EPM to recognize material grades that are imported to Tekla EPM with names that Tekla EPM does not initially recognize. When you use grade redirections, the imported material grades are redirected to the appropriate material grades. For example, if the imported item was A500-GR.B, adding a redirection allows Tekla EPM to recognize the grade and use the A500 grade from the material database.

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Grades** option.
2. In the shape list, select a shape.
3. In the **Grade** list, select the grade for which you want a redirection.
4. Open the **Redirections** tab.
5. Click **Add Grade Redirection**.
6. In the **Shape** list of the **Grade Redirection** dialog box, select a shape.
7. In the **Grade** field, type the grade name that should be redirected to the selected grade.
8. Click **Save**.

See also

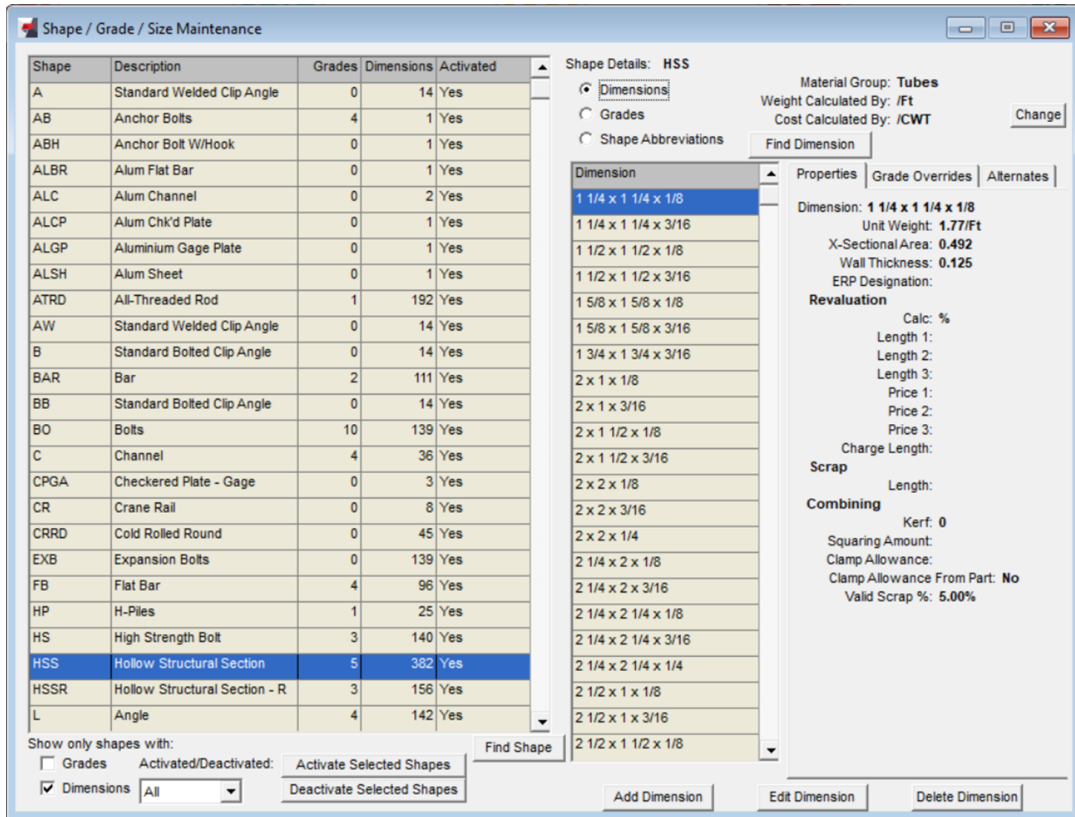
[Add, modify, and delete grades \(page 16\)](#)

[Add grade substitutions \(page 17\)](#)

1.5 Manage dimensions

In the **Shape / Grade / Size Maintenance** dialog box, you can manage material dimensions, or material sizes, in multiple ways. You can add, modify, and delete dimensions, and create grade overrides or alternates for the dimensions.

- To view and modify dimension properties, select the **Dimensions** option at the top of the **Shape / Grade / Size Maintenance** dialog box.



The **Shape / Grade / Size Maintenance** dialog box shows the different details of dimensions:

- The **Dimension** list shows all available dimensions for the selected shape. To view the properties of a specific dimension, select it in the list.
- The **Properties** tab shows the properties of the selected dimension.
- The **Grade Overrides** tab shows the existing grade overrides of the selected grade.

Grade overrides allow Tekla EPM to assign a specific unit weight for a specific dimension. Grade overrides should only be used for shapes that do not have linear unit weights, such as stainless steel.

You can also create, modify, or delete grade overrides on the **Grade Overrides** tab.

- The **Alternates** tab shows the existing alternate dimensions.

When importing a dimension with a description that Tekla EPM does not recognize, alternate dimensions allow Tekla EPM to cross-reference identify the imported dimension.

You can also create or delete alternates on the **Alternates** tab.

See also

[View the dimensions of a shape \(page 20\)](#)

[Add dimensions \(page 20\)](#)

[Modify dimension properties \(page 22\)](#)

[Modify the properties of multiple dimensions \(page 24\)](#)

[Add grade overrides \(page 25\)](#)

[Add alternate dimensions \(page 26\)](#)

[Show where dimensions are used \(page 26\)](#)

[Delete dimensions \(page 27\)](#)

View the dimensions of a shape

To view the dimensions, or the material sizes, of a specific shape, do the following:

1. In the shape list of the **Shape / Grade / Size Maintenance** dialog box, select a shape.
2. At the top of the dialog box, select the **Dimensions** option.
The existing dimensions for the shape are listed in the **Dimension** list.
3. To hide the shapes without material dimensions in the **Shape / Grade / Size Maintenance** dialog box, at the lower-left corner of the dialog box, select the **Dimension** check box.

The shape list now only shows the shapes that have dimensions.

NOTE If necessary, you can also hide shapes that do not have material grades. To do so, at the bottom left corner of the dialog box, select the **Grades** check box.

Add dimensions

You can add material dimensions, or material sizes, to the shape list in the **Shape / Grade / Size Maintenance** dialog box.

1. In the **Shape / Grade / Size Maintenance** dialog box, select a shape in the shape list.
2. Click **Add Dimension** at the bottom of the dialog box.

3. In the **Dimension** dialog box, define the dimension properties according to your needs.

Note that the available and mandatory fields the **Dimension** dialog box vary according to the shape properties.

- a. If you want to add a name for the dimension that is used in an integrated software, type the designation in the **ERP Design** or **ProNest Design** field.
- b. In the **Revaluation** section, define the revaluation properties according to your needs.

The revaluation settings discount the drop material by length by applying a percentage of the drop cost to the job using the stock length.

You can set the revaluation calculation to either a percentage of the original value or a price for each length by selecting an option in the **Calc** list. We recommend using the **%** option because it is easier to maintain.

For example, the revaluation of a 15'-0 drop might be considered worth 80% of the original price, and 10'-0 might be worth 50%. These values are then used for evaluating the remaining stock materials in the inventory for accounting purposes.

If you want all the drop material below a particular length to be charged to the job where the original length was used, you can type the desired length in the **Charge Length** field. If you want all drop material to be charged to the job, typing 60' in the **Charge Length** usually covers all items.

- c. In the **Scrap** section, set a scrap length.

Use the scrap length settings to automatically keep your reserved items and open stock clear of unusable lengths. The material at scrap length or under is removed from the inventory and moved to the inventory history. The scrap information is handy in evaluating a project because it links to **Project Summary** report in **Project Management**. Scrap settings may vary according to material size and type.

- d. In the **Combining** section, define the kerf, squaring amounts, and clamp allowance according to your needs.

Use the **Combining** settings to automatically calculate any material length loss due to cutting and other manufacturing requirements. The values defined in the **Combining** section are added to the cut lengths for performing the combining run. Adding the waste involved with managing materials may help to prevent material shortages.

Defining **Combining** settings is optional. If these settings are not defined, return to stock lengths can be adjusted within the **Take**

From Stock process while working in the **Production Control** module or the **Inventory** module.

Select the **Clamp Allowance from Part** check box to allow the clamp allowance to be included in any length of the part that exceeds the clamp allowance. For example, if 6" pieces cut are cut from a 20' piece that has a 24" clamp allowance, the 24" would be considered waste. However, if there was a 36" piece cut with the 6" pieces, the 24" clamp allowance would be part of the 36" piece.

NOTE The **Valid Scrap %** field should only be used in conditions where extreme fine-tuning for the combining of materials is necessary. This setting is connected to the combining algorithms of Tekla EPM. Set **Valid Scrap %** to 0 unless the Tekla EPM Support instructs you otherwise.

4. Click **Save**.

The new dimension is added to the **Dimension** list for the selected shape in the **Shape / Grade / Size Maintenance** dialog box.

See also

[Modify dimension properties \(page 22\)](#)

[Modify the properties of multiple dimensions \(page 24\)](#)

Modify dimension properties

In the **Dimension** dialog box, you can modify the different properties of a dimensions. These properties include the revaluation settings, the scrap length, and the combining settings. The values that you set in the **Dimension** dialog box are used for calculating material weight, pricing, and combining, so accuracy is important.

1. In the shape list of the **Shape / Grade / Size Maintenance** dialog box, select the desired shape.
2. In the **Dimension** list, select the dimension whose settings you want to modify.
3. Click **Edit Dimension**.
4. In the **Dimension** dialog box, modify the dimension properties according to your needs.

Note that the available and mandatory fields the **Dimension** dialog box vary according to the shape properties.

- a. In the **Revaluation** section, modify the revaluation properties according to your needs.

The revaluation settings discount the drop material by length by applying a percentage of the drop cost to the job using the stock length.

You can set the revaluation calculation to either a percentage of the original value or a price for each length by selecting an option in the **Calc** list. We recommend using the **%** option because it is easier to maintain.

For example, the revaluation of a 15'-0 drop might be considered worth 80% of the original price, and 10'-0 might be worth 50%. These values are then used for evaluating the remaining stock materials in the inventory for accounting purposes.

If you want all the drop material below a particular length to be charged to the job where the original length was used, you can type the desired length in the **Charge Length** field. If you want all drop material to be charged to the job, typing 60' in the **Charge Length** usually covers all items.

- b. In the **Scrap** section, change the scrap length.

Use the scrap length settings to automatically keep your reserved items and open stock clear of unusable lengths. The material at scrap length or under is removed from the inventory and moved to the inventory history. The scrap information is handy in evaluating a project because it links to **Project Summary** report in **Project Management**. Scrap settings may vary according to material size and type.

- c. In the **Combining** section, modify the combining properties according to your needs.

Use the **Combining** settings to automatically calculate any material length loss due to cutting and other manufacturing requirements. The values defined in the **Combining** section are added to the cut lengths for performing the combining run. Adding the waste involved with managing materials may help to prevent material shortages.

Defining **Combining** settings is optional. If these settings are not defined, return to stock lengths can be adjusted within the **Take From Stock** process while working in the **Production Control** module or the **Inventory** module.

Select the **Clamp Allowance from Part** check box to allow the clamp allowance to be included in any length of the part that exceeds the clamp allowance. For example, if 6" pieces cut are cut from a 20' piece that has a 24" clamp allowance, the 24" would be considered waste. However, if there was a 36" piece cut with the 6" pieces, the 24" clamp allowance would be part of the 36" piece.

NOTE The **Valid Scrap %** field should only be used in conditions where extreme fine-tuning for the combining of materials is

necessary. This setting is connected to the combining algorithms of Tekla EPM. Set **Valid Scrap %** to 0 unless the Tekla EPM Support instructs you otherwise.

5. Click **Save** to update the dimension properties.

See also

[Modify the properties of multiple dimensions \(page 24\)](#)

[Add dimensions \(page 20\)](#)

[Add grade overrides \(page 25\)](#)

[Add alternate dimensions \(page 26\)](#)

Modify the properties of multiple dimensions

Use the **Global Edit** command to modify the settings of multiple dimensions of a specific shape at once. For example, using the **Global Edit** command can be useful when changing the revaluation settings for multiple dimensions of a shape. You can modify all the dimensions of the selected shape on one go.

Note that the **Global Edit** command is only available for shapes that belong to the **Plate** and **Angle** material groups. For other material groups, you need to modify each dimension separately.

1. While in the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Global Edit**.
3. In the list at the top of the **Shapes / Grades / Sizes Global Edit** dialog box, select the shape whose dimensions you want to modify.
4. Click the arrow buttons to move the dimensions that you want to modify to the **Included** list.
5. Modify any dimension properties according to your needs.
For example, you can modify the scrap length or the kerf.
6. Select check boxes next to the properties that you want to update.
You can also use the **Un-check All** and **Check Changed Fields** buttons to quickly clear or select check boxes.
7. Click **Save**.

The selected dimensions are updated according to the changes you made.

See also

[Modify dimension properties \(page 22\)](#)

Update dimension weights for newly added shapes

Use the **Global Edit - Dimension Values** command to update the unit weights of material groups when material weight standards change. For example, you can use the **Global Edit - Dimension Values** command to update the weights of newly added shapes. Tekla EPM then calculates the weights based on the existing dimensions.

1. In the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Global Edit - Dimension Values**.
3. In the list at the top of the **Shapes / Grades / Sizes Global Edit - Dimension Values** dialog box, select the desired shape.
4. In the **Material** list, select the desired material group.
5. In the field on the right side of the **Material** list, define the weight of the material.
6. Click the arrow buttons to move the dimensions whose weights you want to update to the **Included** list.
7. Click **Save**.

Add grade overrides

Grade overrides allow Tekla EPM to assign a specific unit weight for a specific dimension. Grade overrides should only be used for shapes that do not have linear unit weights, such as stainless steel.

Note that when you add a grade override, the cost to discount is still applied to the job using the original length of the dimension.

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Dimensions** option.
2. In the shape list, select a shape.
3. In the **Dimension** list, select a dimension.
4. Open the **Grade Overrides** tab.
5. Click **New Grade Override**.
6. In the **Grade** list of the **Grade Override** dialog box, select a grade.
7. In the **Override Unit Weight**, type a weight.
8. Click **Save**.

The **Grade Overrides** dialog box closes, and the new grade override is added to the list on the **Grade Overrides** tab.

See also

[Add dimensions \(page 20\)](#)

[Add grade redirections \(page 18\)](#)

[Add alternate dimensions \(page 26\)](#)

[Modify dimension properties \(page 22\)](#)

[Delete dimensions \(page 27\)](#)

Add alternate dimensions

If the description of a dimension in an imported bill of materials differs from the description of the same dimension in Tekla EPM, problems might occur when importing the file. Adding alternate dimensions enables Tekla EPM to cross-reference to the same dimension in the **Dimension** list and identify the item.

1. In the **Shape / Grade / Size Maintenance** dialog box, select the **Dimensions** option.
2. In the shape list, select a shape.
3. In the **Dimension** list, select a dimension.
4. Open the **Alternates** tab.
5. In the **Alternate** field, type the description that will cross-reference to the selected dimension.
6. Click **Add Alternate**.

The new alternate dimension is added to the **Dimension Alternate** list.

See also

[Add dimensions \(page 20\)](#)

[Add grade overrides \(page 25\)](#)

Show where dimensions are used

If you cannot delete a dimension from the material database because it is used somewhere in Tekla EPM, you can use the **Show Where The Selected Dimension Is Used** command to view where the dimension is used.

1. In the **Shape / Grade / Size Maintenance** dialog box, select a dimension in the **Dimension** list.
2. Click the **Shape / Grade / Size Maintenance** ribbon tab.
3. In the menu, select **Show Where The Selected Dimension Is Used**.
A dialog box opens, displaying the jobs where the dimension is used.

4. Once you have viewed the locations, click **OK** to close the dialog box.

If necessary, you can delete the dimension even if it is used somewhere in Tekla EPM by using the **Force Delete** command.

See also

[Delete dimensions \(page 27\)](#)

Delete dimensions

You can delete existing dimensions in the **Shape / Grade / Size Maintenance** dialog box.

1. In the shape list of the **Shape / Grade / Size Maintenance** dialog box, select the desired shape.
2. In the **Dimension** list, select the dimensions that you want to delete.
To select multiple items, hold down **Ctrl**.
To select a range of subsequent items, hold down **Shift**.
3. Click **Delete Dimension** at the lower-right corner of the dialog box.
4. To permanently delete the dimensions, click **Yes** in the confirmation dialog box.

If a single dimension that you are trying to delete are used somewhere in Tekla EPM, a notification message appears and allows you to see where the dimension is used.

If multiple dimensions that you are trying to delete are used somewhere in Tekla EPM, notification messages appear, telling you that the dimensions are used somewhere in Tekla EPM. The deletion of the selected dimensions is canceled.

5. To view where the single dimension is used, click **OK**.
A dialog box opens, displaying the jobs where the dimension is used.
6. Do one of the following:
 - View where the dimension is used, and click **OK** to close the dialog box without deleting the dimension.
 - If you are sure that you want to delete the dimension, click **Force Delete**, select the new dimension that will be used elsewhere in Tekla EPM instead of the current dimension, and click **Perform Force Delete**.

See also

[Add dimensions \(page 20\)](#)

1.6 Manage material reports

While in the **Shape / Grade / Size Maintenance** dialog box, you can create various material reports, such as shape lists. After creating reports, you can view, print, email, or export them in the **Tekla EPM Report Viewer**.

See also

[Create material reports \(page 28\)](#)

[View material reports \(page 29\)](#)

[Print material reports \(page 29\)](#)

[Send material reports via email \(page 30\)](#)

[Export material reports \(page 30\)](#)

Create material reports

You can create various types of material reports in Tekla EPM, such as shape lists and size lists.

1. While in the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Reports**.
The **Report Filters** dialog box opens.
3. To only include specific materials in the reports, in the **Report Filters** dialog box, select a filter type in the **Type** list, and click **Select**.
4. In the **Filter** dialog box, click the arrow buttons to move the material items that you want to include in the reports to the **Included** list.
5. Click **OK**.
To further limit the included items, repeat steps 3 to 5 for all necessary filter types in the **Report Filters** dialog box.
6. Click **Make Report**.
7. In the **Report Selection** dialog box, click the report that want to create.

Next, you can view the report, print or export the report, or send the report via email in Microsoft Outlook.

See also

[View material reports \(page 29\)](#)

[Print material reports \(page 29\)](#)

[Send material reports via email \(page 30\)](#)

[Export material reports \(page 30\)](#)

View material reports

Once you have created a material report, you can view it in the **Tekla EPM Report Viewer**.

1. Create a report.
For detailed instructions, see [Create reports \(page 28\)](#).
2. In the **Report Selection** dialog box, click **View**.
3. In **Tekla EPM Report Viewer**, do any of the following according to your needs:

To	Do this
Move between pages	<ul style="list-style-type: none">• Click the arrows at the top of Tekla EPM Report Viewer.
Go to a specific page of the report	<ul style="list-style-type: none">• Type the page number in the empty field at the top Tekla EPM Report Viewer.
Find a text in the report	<ol style="list-style-type: none">a. Click the binocular icon.b. In the blank field, type the text that you want to find.c. Click Find Next. Any matching text is highlighted with a red box.
Zoom in or out	<ul style="list-style-type: none">• Click the magnifying glass icon and select the zoom value in the list.

Once you have viewed the report, you can close **Tekla EPM Report Viewer**, or print, email, or export the report.

See also

[Print material reports \(page 29\)](#)

[Send material reports via email \(page 30\)](#)

[Export material reports \(page 30\)](#)

Print material reports

To print a material report in the **Tekla EPM Report Viewer**, do the following:

1. Create a report.
For detailed instructions, see [Create reports \(page 28\)](#).
2. In the **Report Selection** dialog box, click **View**.
3. At the top of **Tekla EPM Report Viewer**, click **Print Report**.

4. Select the printer that you want to use.
5. Define the pages that you want to print.
6. If necessary, modify other printer settings.
7. Click **Print**.

See also

[Send material reports via email \(page 30\)](#)

[Export material reports \(page 30\)](#)

Send material reports via email

You can send material reports via email as either Microsoft Excel worksheets or PDF files. Note that the **Email Excel** and **Email PDF** commands only work with Microsoft Outlook. If you use some other email service, you need to export the report and attach it to an email manually.

1. Create a report.
For detailed instructions, see [Create reports \(page 28\)](#).
2. In the **Report Selection** dialog box, click **View**.
3. In the upper-right corner of the **Tekla EPM Report Viewer**, click either **Email Excel** or **Email PDF**.

When the report is ready, the Microsoft Outlook icon appears at the bottom of the screen.

4. Click the icon to open Microsoft Outlook.
5. Modify the email according to your needs.
6. Send the email.

Export material reports

You might need to export a report, such as a shape list, to send it to the steel detailer. This way, they will have all the shape information used in Tekla EPM. Having the shape list will minimize the need to create new shape descriptions and abbreviations, grade abbreviations, substitutions, and redirections in Tekla EPM.

1. Create a report.
For detailed instructions, see [Create reports \(page 28\)](#).
2. In the **Report Selection** dialog box, click **View**.
3. In the upper-left corner of the **Tekla EPM Report Viewer**, click **Export Report**.

4. In the **Save As** dialog box, browse to the folder where you want to save the file.
5. If necessary, modify the file name.
6. If necessary, select another file format in the **Save as type** list.
7. Click **Save**.

The report is saved to the selected location.

1.7 Change the display units of prices

Use the **Change** command to change the display units of a shape used in pricing. Changing the display units is useful for items like HSS, as the pricing is often by foot rather than by pound or hundredweight. Where applicable, pricing by item is also available.

1. In the **Shape / Grade / Size Maintenance** dialog box, select the shape whose display units you want to change.
2. In the upper-right corner of the dialog box, click **Change**.
3. In the **New Display Units** list, select the desired units.
4. Click **OK**.

The units used in the pricing of the shape are updated.

The selected pricing units are used in requisitions, purchase orders, and inventory.

1.8 Switch the material information to metric/imperial mode

You can choose to display sizes, lengths, weights, sizes, or all previously mentioned information in the **Shape / Grade / Size Maintenance** dialog box in either imperial units or metric units.

1. In the **Shape / Grade / Size Maintenance** dialog box, click the **Shape / Grade / Size Maintenance** ribbon tab.
2. In the menu, select **Switch To Metric/Imperial Mode**.
3. In the extended menu, click an item whose mode you want to switch.

If you select the **Switch To Metric Mode** or **Switch To Imperial Mode** option, all information in the dialog box is switched to the mode that is not currently active.

Index

D

Dimensions	
Add.....	20
Add alternates.....	26
Delete.....	27
Manage.....	18
Modify properties.....	22
Modify properties of multiple dimensions.....	24
Show where used.....	26
Update weights.....	25
View.....	20
Display units	
Change.....	31

G

Global edit	
Dimensions.....	24
Grade substitutions	
Add.....	17
Grades	
Add overrides.....	25
Add redirections.....	18
Manage.....	14

M

Maintenance	
Materials.....	3
Material database	
Activate shapes.....	10
Add alternate dimensions.....	26
Add dimensions.....	20
Add grade redirections.....	18
Add grade substitutions.....	17
Add grade overrides.....	25
Add grades.....	16
Add shape abbreviations.....	11

Add shapes.....	8
Change display units of prices.....	31
Create shapes.....	8
Create material reports.....	28
Deactivate shapes.....	10
Delete grades.....	16
Delete dimensions.....	27
Delete shape abbreviations.....	11
Delete shapes.....	14
Edit dimension properties.....	22
Edit grades.....	16
Export material reports.....	30
Export shapes.....	12
Find dimension.....	4
Find shape.....	4
Find grade.....	4
Manage dimensions.....	18
Manage grades.....	14
Manage material reports.....	28
Manage shapes.....	5
Modify grades.....	16
Modify properties of multiple dimensions.....	24
Modify dimension properties.....	22
Modify shape abbreviations.....	11
Open.....	4
Print material reports.....	29
Send material reports via email.....	30
Set up.....	3
Show where dimension is used.....	26
Switch the material information to metric or imperial mode.....	31
Update dimension weights for newly added shapes.....	25
View.....	4
View dimensions of shape.....	20
View material reports.....	29
Material grades	
Add.....	16
Delete.....	16
Modify.....	16

Material reports	
Export.....	30
Manage.....	28
Print.....	29
Send via email.....	30
View.....	29
Material reports	
Create.....	28

S

Shape abbreviations	
Add.....	11
Delete.....	11
Modify.....	11
Shape grade size maintenance	
Open.....	4
Shapes	
Activate.....	10
Deactivate.....	10
Shapes	
Add.....	8
Create.....	8
Delete.....	14
Export.....	12
Manage.....	5
View dimensions.....	20