

BrickUtils Manual

Version 0.1.6.0

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BrickUtils

Edit Import/Export Catalog Advanced Tools Update Program

Current bricks List My bricks catalog My sets catalog


ID	BLink ID	LDD ID	LDD Color	BLink Color	Qty	Part description
25	24120	2412	315 Metallic Silver	07 Metallic Silver	1	Tile, Modified 1 x 2 Grille
26	3002	3002	119 Br. yellowish green	34 Lime	2	Brick 2 x 3
27	4536	4536	222 Light Purple	104 Bright Pink	1	Container, Cupboard 2 x
28	4346	4346	40 Transparent	12 Trans-Clear	1	Container, Box 2 x 2 x 2
29	3020	3020	21 Bright red	5 Red	4	Plate 2 x 4
30	30106	30106	40 Transparent	12 Trans-Clear	1	Minifig, Utensil Crystal B
31	3823	3823	40 Transparent	12 Trans-Clear	1	Windscreen 2 x 4 x 2
32	52107	52107	21 Bright red	5 Red	1	Brick, Modified 1 x 2 with
33	30413	30413	21 Bright red	5 Red	2	Panel 1 x 4 x 1

List info

Part type count: 130

Total part count: 246

Brick shape



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1 Legalese

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LEGO sets, parts and colors are exclusive property of LEGO group.

BrickUtils is NOT related, linked, sponsored or supported by LEGO Group.

2 Thanks

This program cannot be made without databases made available from BrickLink team.

Many thanks to the thousands of LEGO fans that maintains BrickLink sets and parts catalogs.

Thanks to LDraw team and contributors, that maintains a big database of 3D brick models.

Other thanks:

- to “Superkalle” user at Eurobricks (moderator for “LEGO Digital Designer and other digital tools” forum) for listing changes in latest release of LDD
- to “Calabar” user at Eurobricks for countless ideas and tips on program functions
- to Leo Valiant, that suggested store inventory import function and tested several program versions, reporting bugs
- to Shawn Redford, for testing several versions and reporting bugs
- to all Romabrick people (<http://www.romabrick.it>) for support and suggestions (and for pulling me out from the LEGO *dark age*)

3 Release Notes

3.1 What's new

- New: Mac OSX ≥ 10.6 support (WARNING! HIGHLY EXPERIMENTAL!)
- New: interface redesign, looking for clean and easy use
- New: import from BrickLink variuos XML listing format added: wanted list and order list
- Improved: new buttons in edit part dialog on Current brick list to convert color and part ID using internal conversion tables
- Improved: new button “Add&repeat” in add brick function for Current brick list and Catalog, to speed up manual inserting of brick in lists

3.2 Changes from previous release

- Current brick list tab is now displayed first in program

3.3 Known limitations

- BrickUtils does not track brick decorations, it is only a flag: decorated or not. This is because decoration matching between BrickLink (and other public catalogs) and LDD is

quite hard to maintain.

It is up to you to choose an appropriate decoration for your models.

- Brick images are intended as hints. Brick 3D models are from LDraw library and are user supplied (see 7.2 Brick shapes and image cache).
- Brick ID mapping from BrickLink to LDD and from LDraw to LDD are not 100% reliable, it is an impossible task, so, please, do not take it as “ultimate truth”.
- Checks for “brick in X color” performed in sanity checks isn't 100% reliable. Expecially for old bricks where LEGO part number is unknown. This is because LEGO starts publishing inventory with part numbers for every set at the end of instructions booklets only starting from ten years ago.

4 Quick Intro

4.1 What is BrickUtils

BrickUtils is an utility for builders that use LEGO® Digital Designer™ or other fan created CAD (like LeoCAD, MLCAD and many others) for designing models.

The main problem that BrickUtils tries to solve is the answer at the question: can I build this model with bricks I own?

So, with BrickUtils you can quickly build your brick catalog and check if you can build a model created with LDD.

You can also use BrickUtils to check what bricks you need to complete your project, designed with LEGO® Digital Designer or LDraw-compatible software, to export a list of such bricks and load it in BrickLink “wanted list” to buy needed bricks.

Catalogs in BrickUtils are based on parts and colors available in LDD, that is the main source for “standard” bricks and colors.

4.2 How BrickUtils Works

It is an Open Source software, created with Python scripting language, and uses SQLite to manage databases needed for its own work.

So, you don't need any license at all, or you don't have to pay anything to anyone to use BrickUtils.

BrickUtils works in Windows (from XP onward) and Linux (any distribution that includes Python and some other really common Open Source programs, often already installed).

BrickUtils uses catalog of bricks and sets available from BrickLink. Without this catalog, program cannot work, or works really bad. Below we see how get this catalog and how to use it.

4.3 BrickUtils features list

- Imports LEGO® Digital Designer project file (LXF or LXFML)
- Imports BrickLink set inventory and store inventory (only for store owners)
- Imports LDraw file format (MPD or LDR)
- Automatically convert part ID between LDD, BrickLink and LDraw part catalogs
- Manage your collection of bricks, sets, MOCs and custom lot of bricks
- Display brick shape (from LDraw part library)
- Checks if you can build a model (from LDD, LDraw or a BrickLink set) against your brick catalog, and helps you to find alternate bricks
- Exports BrickLink "Wanted Mass Upload" XML file, to buy bricks on BrickLink
- Exports lists in printable HTML to helps pick bricks from your collection (a bill of materials)
- over 2500 BrickLink from/to LDD parts database
- over 3500 LDraw from/to LDD parts database

- Updated to LDD 4.3.6 and brick set 1033
- Includes LDraw part library update 2012-03
- Automatic database upgrade when installing new program releases, keeping set and bricks catalog.
- Automatic check and update for new catalog database via Internet, with program version compatibility check
- Imports and exports your bricks and sets catalog in XML format, for backup and upgrades
- Faster full text search in BrickLink parts and sets databases
- Faster full text search in LDraw parts database
- “Can Build?” function includes “export” buttons to create a wanted mass upload file accepted by BrickLink or a printable HTML bill of material from missing bricks
- Sanity checks for imported brick lists, i.e. Checks if a brick exists in a chosen color
- Complete user manual (PDF, english and italian)
- Works on Windows, Linux and Mac OSX ≥ 10.6 (Snow Leopard). Mac OSX requires an additional software, see 4.8.3.

4.4 What BrickUtils won't (never) do

- BrickUtils do not use images from BrickLink: to do so it needs an explicit permission from BrickLink owner, that wasn't granted to me.
- BrickUtils will never do direct queries to BrickLink website, it is explicitly prohibited by terms of use
- accordingly, BrickUtils will never do store selections and compute best prices for parts or lists, because those data aren't available for download and programs that do automated web queries are explicitly prohibited by BrickLink

So, no features that needs these functions will (never) added to BrickUtils.

4.5 License and warranty

BrickUtils is a free and Open Source software, release under the terms of GNU General Public License version 3 or later at your option.

So, you don't need to pay for any license at all, and you don't have to pay anything to anyone to use BrickUtils.

BrickUtils **comes with no warranty of any kind**. You can use the program “as is”, and if program don't match your expectations, don't use it.

4.6 Support

To obtain support about program, you can contact me with my e-mail, listed at the start of this document, or you can go to the program website that you can find in the About dialog.

Please note that BrickUtils was created for my personal use, and giving support to user isn't my work. Question that are answered in documentation will be ignored.

4.7 New versions

New versions and updates are released when ready. There is no planning. Please refer to program website that you can find in About dialog.

Planned features are listed in project's Sourceforge account, under Tickets (<http://sourceforge.net/p/brickutils/tickets/>), but there is no timeline for releases.

4.8 Installation

Starting from present release, I will not building installable versions anymore. I will distribute only portable versions and sources.

Installation procedures differs. Choose your system below.

4.8.1 Installation note for Windows

To install BrickUtils on Windows you need to get the portable package at:

<http://bricksnspace.wordpress.com/brickutils/>

To install and use program you DO NOT NEED administrator privileges, so you can install on any computer. Every user will have to install program, and every user will have a private catalog. This is a design choice. Program comes as a single zip file. Unpack it in a directory at your choice and launch “pyBrickUtils.exe”.

4.8.2 Installation note for Linux

For every Linux distribution, you can get the tar.gz package from:

<http://bricksnspace.wordpress.com/brickutils/>

To use BrickUtils as a “portable” application, unpack the *tarball* in a directory at your choice and launch “pyBrickUtils.py”. To get BrickUtils working you need to have installed:

- Python 2.6 or later (2.7 is recommended, python 3.x is not supported)
- pyGTK 2.10 or later
- SQLite 3 or later

from your Linux distribution software repository.

Program was tested in:

- Fedora 14,15,16,17,18
- Debian 6 “Squeeze”

4.8.3 Installation notes for Mac OSX

Starting from release 0.1.6.0 BrickUtils works on Mac OSX release 10.6 (Snow Leopard) and later versions. It uses Python that comes with OSX, but requires to install a package to works: PyGTK.

There is a ready-to-install version in: <http://macpkg.sourceforge.net/> that works fine.

Unpack the BrickUtils *tarball* in a folder at your choice and launch the file “pyBrickUtils.py”, that's all.

For catalog database instructions, please refer to general instructions that follows.

4.9 Where is program database?

Database is in a single file, called “catalog.sql3”. This file contains all data BrickUtils needs to work and all your catalog: bricks and sets. Every change you do at brick catalog or sets is in this file. In every platform database is in program “portable” folder.

4.10 Uninstall program

To remove program from your system you have only to delete program folder.

If you plan to use again BrickUtils, it is a good idea to make a backup copy of your catalog (see 4.9).

4.11 Upgrade program

To upgrade you not need anything but get a new one.

4.12 How to upgrade Catalog

To take advantage of new features and use all new bricks in database, you must use the new catalog database, released both with new program version and via automatic update on Internet.

4.12.1 Update catalog when install new program version

Before unpacking new version, do a backup copy of your catalog, see 4.9 Where is program database?.

Unpack the new version, inside you will find a file called “catalog.new”. Put your old catalog in the same folder and launch BrickUtils: the upgrade message will shows and your databases will be upgraded automatically on program startup.

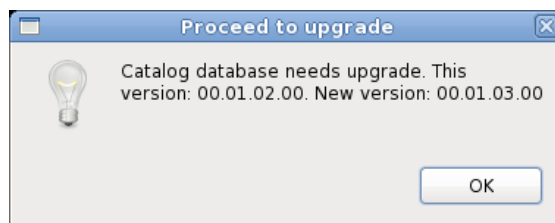


Fig. 1: Catalog upgrade warning

Program automatically migrate your brick and set catalog to new database, so you don't need to reload it.

After a while you will get a completion message.



Fig. 2: Upgrade successfully completed

NOTE: the “Current brick list” is not migrated, this is a design choice: new databases can have different conversion mapping for parts and colors, so program discards it, and after an upgrade it is empty.

4.12.2 Catalog automatic update

All program versions do a check on startup to see if a new catalog is available, if an Internet connection is active.

If program detects a new catalog, it shows a confirmation box (Fig. 3) and it starts new catalog download (Fig. 5). If you click “No” button, program will ask you again at the next startup..

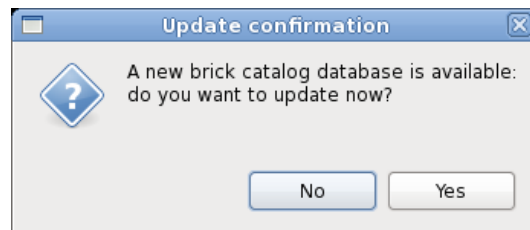


Fig. 3: Program asks for catalog update

If database isn't compatible with your program version (i.e. Database requires new features available only in a new program release), you will get a warning, and no action is performed.

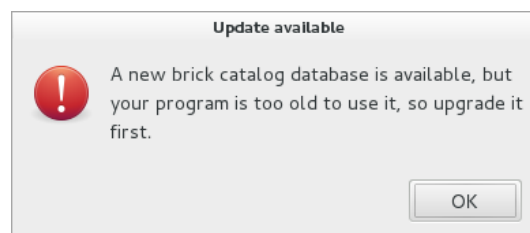


Fig. 4: You need to upgrade BrickUtils

After checking new catalog integrity, program starts update, as when you install a new program version (see 4.12.1 Update catalog when install new program version).

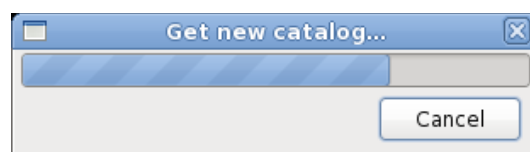


Fig. 5: Download new catalog

5 BrickUtils Overview

5.1 Main window and menu

At startup, you will see a window with three tab. Every tab is pointed to one function, that are:

- Current (working) brick list – list of bricks you are working on
- My brick catalog – a list of bricks you own
- My set Catalog – a list of set you own

When you select a tab, the top menu changes according to functions available in selected list.

Some menu are always available:

- Tools – maintenance of program internal data and functions
- Update – allow updates for various databases and tables used for parts reference
- Program – about dialog and exit from program

5.2 Current brick list

This is the tab with far more functions of all.

In the top part you see the current brick list, with these information:

- ID – internal ID, automatically assigned
- Blink ID – part ID from BrickLink catalog
- LDD ID – part ID from LEGO® LDD
- LDD Color – id, sample and name of color, as used in LDD
- Blink Color – id, sample and name of color, as BrickLink naming convention
- Qty – quantity of bricks of this type
- Part description – a brief description of brick shape and function
- Decor – flag, checked if brick has a decoration
- Extra – flag, checked if brick is an extra part in an imported set (see <http://www.bricklink.com/help.asp?helpID=1562>)
- Altern – flag, checked if brick has an alternate part in an imported set
- Cnterp – flag, checked if brick has a counterpart in an imported set

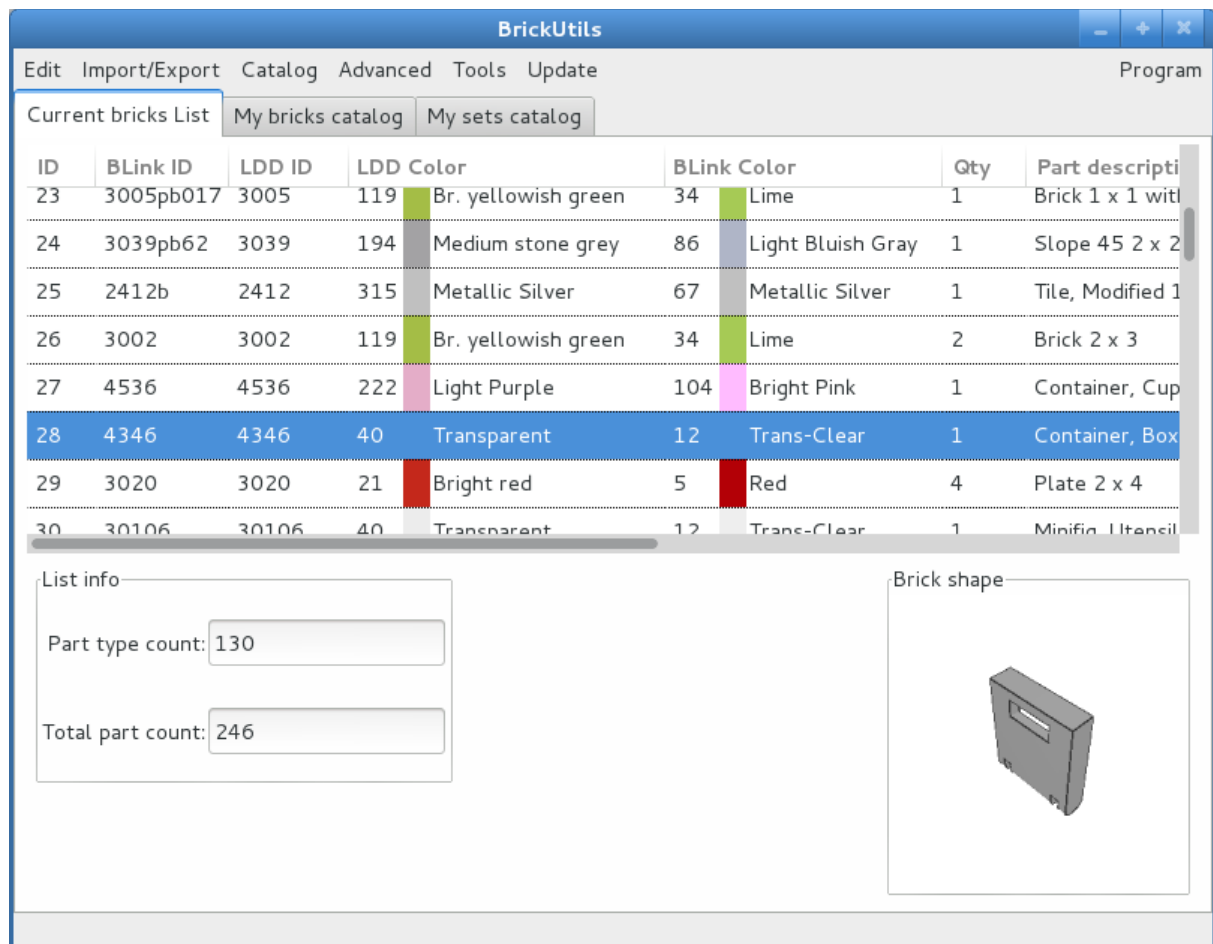


Fig. 6: Current brick list window

In the lower part you have a counter for different part and total part in list and a box showing an image of part shape.

Top menu for this window are:

- Edit
 - Add part – Adds part to list
 - Edit part – permits limited editing on selected brick
 - Delete part – deletes selected part (you can select more brick from list with CTRL+click and Shift+click)
 - Remove Counterparts – deletes all parts marked as counterpart, i.e. with flag Cnterp checked
 - Remove Extra parts – deletes all parts marked as extra, i.e. with flag Extra checked
 - Empty part list – delete all parts in list
- Import/Export
 - Import LDD Project – reads and store as Current brick list a LEGO® LDD project file (in LXF or LXFML format)
 - Import BL Inventory – reads and store as Current brick list a BrickLink inventory (XML format) chosen from: set inventory, store inventory, wanted list mass upload and order

inventory

- Import LDraw file – to import projects made with LDraw compatible softwares (like MLCAD, LeoCAD...). More details on LDraw file format and user provided CAD: <http://www.ldraw.org/>
- Export as BL mass upload – you can export the “Current brick list” in a file that you can upload on BrickLink, so you can buy parts from other users on BrickLink. More details on BrickLink: <http://www.bricklink.com/help.asp?helpID=207>
- Export as printable HTML – generates HTML file from list. Resulting file is printable. List format is configurable.
- Catalog
 - Add to Catalog... - add all parts in list to your brick catalog
 - Add to Catalog as a set... - add all parts in list to your brick catalog, linked with an official set or with generic lot, and add it to your set catalog.
- Advanced
 - Can build? - a powerful function that checks current brick list against your brick catalog to see if you have all parts, so you can check if you can build a model with bricks you own. It also helps you to find alternatives to missing bricks and it can export a list of missing bricks.
 - Checks for errors – checks imported bricks for errors. At the moment, it checks if a bricks is ever sold in colors you enlisted.

5.3 My Brick Catalog

This is your personal catalog of bricks you own. With “brick” you mean “every item that you get in a LEGO® box” except stickers. So, not only classic 2x4 brick or roof tiles, but also wheels, Technic™ pins and axles, tires, windows, doors, and so on.

The only exception are minifigures as intended from BrickLink: BrickLink use a catalog based on

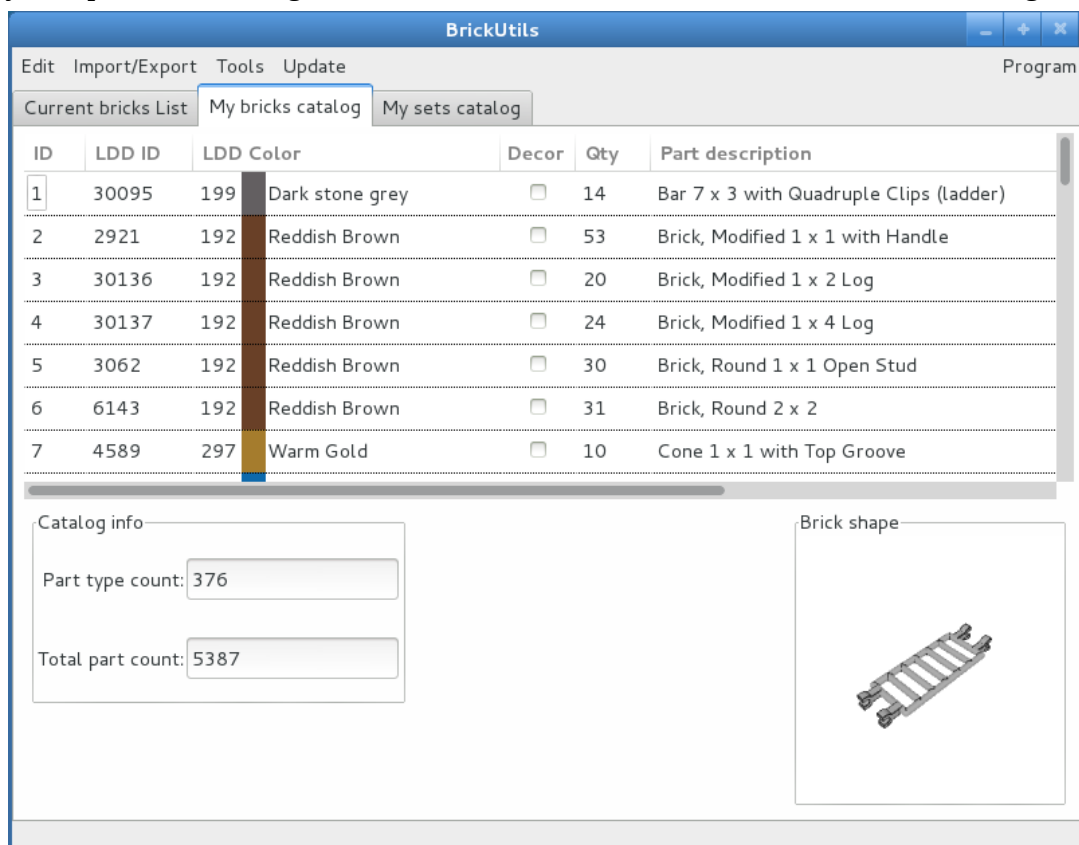


Fig. 7: My Brick Catalog tab

whole minifigure as one single part, BrickUtils treat any minifigure like any other “brick” in Digital Designer, made of legs, torso, head and gears (hat, tools, wig, ...).

In the upper part you see your bricks. For every brick you have these information:

- ID – unique identifier of brick in list. Used for internal purpose, and assigned automatically by program
- LDD ID – LEGO® Digital Designer **Part ID**, know also as **Design ID**. It is a number that identifies a specific brick shape
- LDD Color – the color of brick: numeric color ID (as used by LDD), color sample, and color name as LDD color
- Decor – a flag that is checked if brick is decorated (i.e. has a logo or sign on one of his face).
- Qty – how many bricks you own with this part ID, color and decoration.
- Part description – a brief description of brick

Menu for this window are “Edit”:

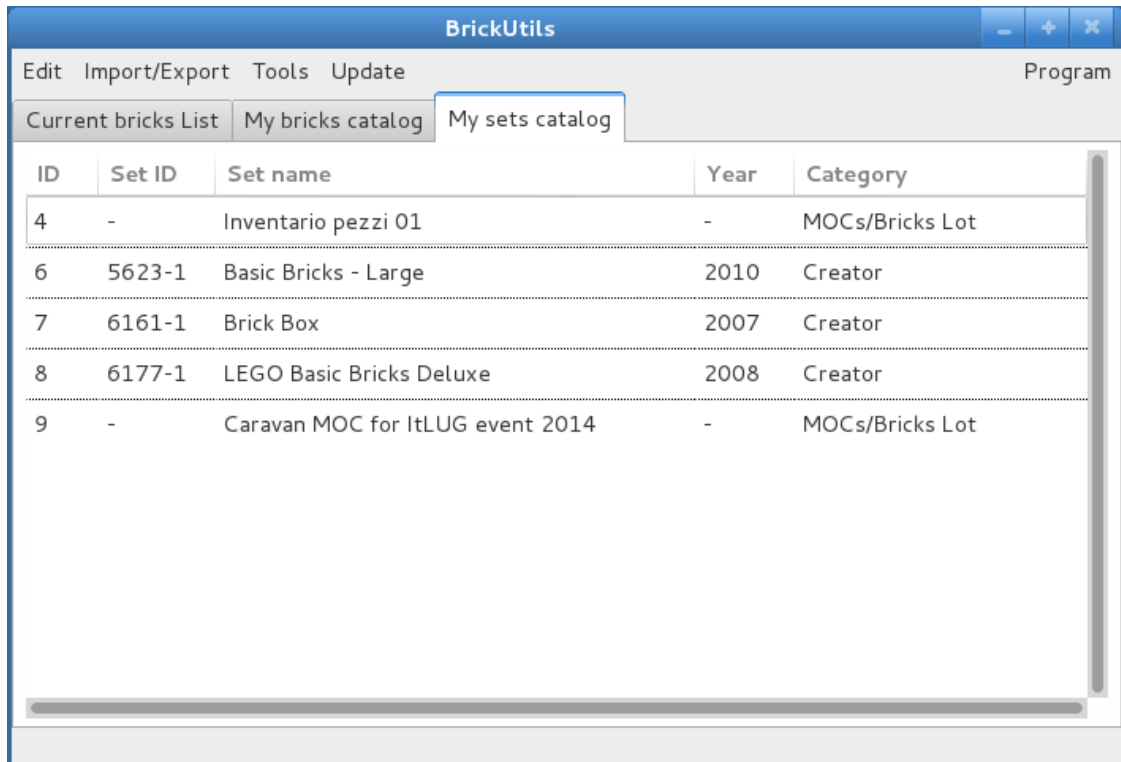
- Add brick... - opens a dialog used to add brick one type at time
- Edit brick... - opens a dialog used to edit selected brick properties
- Delete brick... - delete bricks from list (you can select more brick from list with CTRL+click and Shift+click)
- Remove empty bricks – sometime you have a brick definition in list that have 0 brick in the quantity column (we will see when this happens in Set Catalog), you can remove all these definition in one click.

and “Import/Export”:

- Backup brick catalog... - exports your brick catalog as a file in XML format.
- Restore brick catalog... - imports brick catalog form a file in XML format, exported with previous function. It imports **ONLY** file created with previous function. **Warning: imported catalog will replace your catalog.**

In lower part you can see counts for part type and parts, while on the right “Brick shape” will show a little image of the selected brick.

5.4 My Set Catalog



ID	Set ID	Set name	Year	Category
4	-	Inventario pezzi 01	-	MOCs/Bricks Lot
6	5623-1	Basic Bricks - Large	2010	Creator
7	6161-1	Brick Box	2007	Creator
8	6177-1	LEGO Basic Bricks Deluxe	2008	Creator
9	-	Caravan MOC for ItLUG event 2014	-	MOCs/Bricks Lot

Fig. 8: My set catalog window

Here you can see the list of sets you own.

For every set you can see:

- ID – internal ID for set, automatically assigned
- Set ID – the official set part number by LEGO®
- Set name – the official name of set
- Year – year of release
- Category – the category of the set

In the “Edit” menu:

- Delete set - that deletes selected set (you can select more set from list with CTRL+click and Shift+click)

“Import/export” menu:

- Backup set catalog... - exports your set catalog as a file in XML format.
- Restore set catalog... - imports set catalog from a file in XML format, exported with previous function. **Warning: imported catalog will replace your catalog.**

5.5 Tools menu

This menu permits maintenance on main databases and conversion tables used by BrickUtils. Menu items are:

- Manage color mapping – utility for maintenance of color conversion table between LEGO®

LDD, LDraw and BrickLink color catalog

- Manage BrickLink part mapping – utility for maintenance of part conversion table between LEGO® LDD and BrickLink part catalog
- Manage LDraw part mapping – utility for maintenance of part conversion table between LEGO® LDD and LDraw part library
- Manage LDD composite part – Some parts in Digital Designer are sum of more parts: one example is “mini antenna” (part #73587 in LDD, part #298c02 in BrickLink), where “color” is determined from base. To get right color and decoration from a composite part, program needs to know the sub-part ID that is considered “main part”.
- Empty brick images cache – Images for brick shape are downloaded when needed and stored in a local cache. Sometimes you need to refresh images, to get modified or enhanced brick shapes, so you must empty local cache to renew images.

5.6 Update menu

In this menu you have functions to update public catalogs used by BrickUtils:

- Update BL parts – imports and updates BrickLink parts catalog from a catalog dump (XML format)
- Update BL sets – same for sets catalog
- Update BL colors – same for colors definition
- Update BL categories – same for BrickLink categories
- Update BL part/color codes – imports and updates BrickLink parts/color production codes, already known as part number, used for sanity checks
- Update LDraw library – reads LDraw library zipfile and updates internal database

5.7 Program menu

A classic menu with an “About” dialog and an exit function to terminate program.

5.8 How BrickUtils works

The main work is in “Current brick list”. Here you can import BrickLink set inventories, LDD or LDraw projects, here you can edit brick properties, or add manually your list of bricks.

When you have a list ready, you can add it to your bricks catalog, export on BrickLink to buy parts or print on paper to pick bricks from your collection.

6 Working with BrickUtils

When you start BrickUtils for the first time, it is quite useless: bricks and sets catalogs are empty. You can still use some functions, like print list of bricks or export a BrickLink “wanted mass upload” file, but to fully use BrickUtils you have to fill your catalog of bricks and sets.

Moreover, BrickUtils comes with BrickLink to LEGO® Digital Designer and LDraw parts and colors conversion tables, but you need to update some databases from time to time, because new sets are released, new parts are produced and new colors are created.

This chapter show to you how to use BrickUtils.

6.1 The main catalog

BrickUtils comes with a single file to store all data, named “catalog.sqlite3”. It is a SQLite database, so you can open it with SQLite and look into tables and records.

If this file is missing, BrickUtils will refuses to start.

When you get latest BrickUtils version, you will have a database with all data updated to the release date of the program, but some catalog, like parts or sets catalog from BrickLink, needs to be periodically updated as long as LEGO® releases new sets and new parts.

Mapping tables for parts and colors, instead, are pre-compiled, but you can add and/or change parts and colors at your choice: these tables are used to convert parts and color between LDD, BrickLink and LDraw numbering standards. For example, the classic color red has ID 21 in LDD, ID 5 in BrickLink and ID 4 in LDraw, and this is pretty straightforward, but some color, like metalized or less common, are not-so-simple to convert between catalogs, so we have to choose what color in BrickLink (or LDraw) is a specific color in LDD.

Like colors, parts suffer the same problem: although a great number of parts have the same ID in LDD and BrickLink, and LDraw, there are lots of differences. For example, the mini antenna (see figure) in LDD is #73587, in BrickLink is #4592c02, so we need a table for conversion between part numbering conventions.

In catalog that comes with BrickUtils, colors and parts conversion tables are populated with a



#73587

selection of colors and parts, but you can review it and add yours, although it isn't the best way.

These conversion tables are really important to get the maximum from BrickUtils: there are used for brick descriptions, color naming, importing sets from BrickLink, and so on.

Incomplete or wrong mapping tables lead to unusable catalog: for there reasons it is preferable to avoid a manual editing of conversion tables and notify BrickUtils developer for wrong or missing mapping, so in new releases of program or catalog you will have the new and right mappings.

6.2 Updating BrickLink catalogs

BrickUtils is heavily based on BrickLink catalogs, and cannot work without up-to-date catalogs. When you starts BrickUtils, there is a pre-filled catalog, update at the release date, but you need to

update BrickLinks' catalog every month, or twice.

The right order to update catalogs is:

1. First, update categories and color catalogs (see 6.2.3)
2. Next, update parts and sets catalogs (see 6.2.1 and 6.2.2)
3. Last, update part codes (see 6.2.4)

6.2.1 Updating BrickLink parts catalog

First you have to download the complete part catalog from BrickLink. So, open your browser and go to:

<http://www.bricklink.com/catalog.asp>

BrickLink Catalog Download - Mozilla Firefox

File Modifica Visualizza Cronologia Segnalibri Strumenti Aiuto

http://www.bricklink.com/catalogDownload.asp

BrickLink Catalog Download

BrickLink
Unofficial LEGO(R) Marketplace

SEARCH
Catalog Items [Go!]
Advanced Search Site Map New Items For Sale

Welcome!
Login Register
Special Message

Home Buy Sell Search Members Catalog Wanted MyBrickLink Orders Problem Help Forum Chat Links

View Search Inventories In Relationships Colors Price Guide Download Add or Change Logs Credits My Settings

Catalog Download

☒ Catalog Items:
Parts [v]
☒ Include Year
☐ Include Weight
☒ Include Dimensions

☐ Item Types
☐ Categories
☐ Colors
☐ Part and Color Codes

☐ Inventory:
Set [v]
Item No: []

Download Format:
XML [v]

Download

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Visitor number 80302543 thanks for stopping by!

Monday, November 14, 2011 07:57 EST CPU Time: 0.0000 seconds. ©2000 - 2011 BrickLink.com All rights reserved.

Fig. 9: BrickLink Catalog Download page

Scroll the page until you see a section named “Other Catalog Features”. Click on “Download Catalog” link. You will see the above page.

First of all, in the combo box named “Download Format:” change selection in “XML”.

Next select “Catalog Items” radio button, and choose “Parts” from the combo box immediately under it. Make sure you check “Include Year” and “Include Dimensions” for parts catalog: these data are used for many functions in programs.

Click on “Download” button, and save the file where you wish. File is named “Parts.txt”, and is some megabytes in size.

Launch BrickUtils, select “Update BL parts” from “Update” menu. On the file selection dialog, select the downloaded file and press “OK”. After few seconds you see a message in BrickUtils that inform you on how many parts founds in file.

Please note that you need to update BrickLink databases frequently, to have an updated list of new bricks and sets. Every time a new set is released, it often contains new parts, so you must update every time LEGO® releases a new set.

You can also check if it is time to update your catalog when after importing a set inventory from BrickLink (see “6.4.1 Importing an inventory from BrickLink”) you will see listed a part with BrickLink ID but with Part description as “no match found – unknown part”: a new part is in set inventory but not in your BrickLink databases.

6.2.2 Updating BrickLink sets catalog

Download sets catalog from BrickLink using the same method explained in “6.2.1 Updating BrickLink parts catalog”. The only difference is that you have to check the option “Include Year” under “Catalog Items”. File is usually named “Sets.txt”.

The screenshot shows the 'BrickLink Catalog Download' page in a Mozilla Firefox browser. The address bar shows the URL 'http://www.bricklink.com/catalogDownload.asp'. The page has a blue header with the BrickLink logo and navigation links. A search bar is present with 'Catalog Items' selected. Below the search bar, there are three main sections for filtering the download: 'Catalog Items', 'Item Types', and 'Inventory'. In the 'Catalog Items' section, 'Sets' is selected in the dropdown, and 'Include Year' is checked. In the 'Item Types' section, 'Categories' is selected. In the 'Inventory' section, 'Set' is selected. Below these sections, the 'Download Format' is set to 'XML'. A 'Download' button is located at the bottom of the form. At the bottom of the page, there is a disclaimer about LEGO sets and a visitor number of 39454383. The footer also shows the date 'Friday, November 04, 2011 05:18 EST' and the copyright notice '©2000 - 2011 BrickLink.com All rights reserved.'.

Fig. 10: Bricklink Sets catalog download

In BrickUtils select “Update BL sets” from “Tools” menu. Select your downloaded file and click on “OK”. After few seconds you will see a message that inform you on how many sets are in file.

6.2.3 Updating BrickLink colors and categories definition

BrickLink colors and categories are used to classify bricks and to enable importing of set inventory in your catalog.

Using the same web page pictured above, you must select “Categories” or “Colors” radio button and download the file. File names usually are “categories.txt” and “colors.txt”. In menu “Tools”, items are “Update BL categories” and “Update BL colors”.

As usual, at the end of import process you can see a message with total elements imported.

6.2.4 Updating BrickLink part codes definition

BrickLink part codes are used to check if a brick is ever produced in a specific color, and what part number it has.

Using the same web page pictured above, you must select “Part and Color Codes” radio button and download the file. File name usually is “codes.txt”. In menu “Tools” option is “Update BL part/color codes”.

As usual, at the end of import process you can see a message with total elements imported.

6.3 Color and part mapping tables

In the default catalog that come with BrickUtils these conversion tables are populated with a quite large set of rules, but you may want to define your own. So, in “Tools” menu there are some items: “Manage color mapping”, “Manage BrickLink part mapping” and “Manage LDraw part mapping”.

6.3.1 Manage color mapping dialog

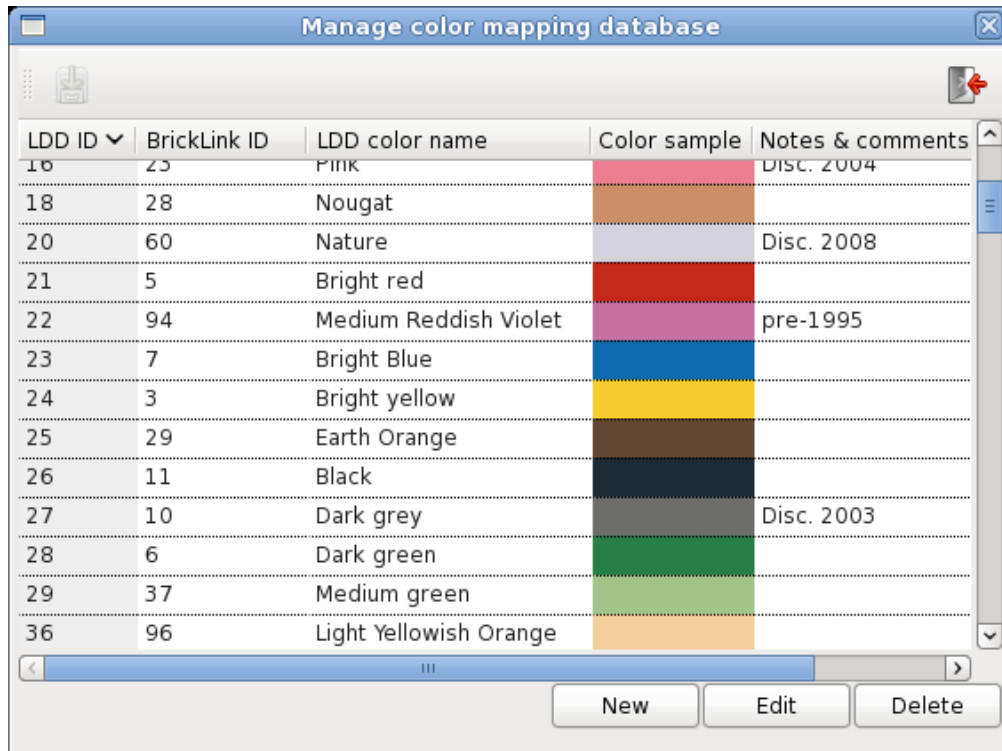


Fig. 11: Color mapping dialog

This dialog permits to define and change the color equivalence between LEGO® Digital Designer, BrickLink and LDraw.

All operations are accessible via buttons. In the toolbar you have (from left to right, icons may differs):

Save colormap database in main catalog – when you modify at least one equivalence this button permits to save modify in main catalog. Please note that table is global, so every change will work on all conversions that take place **after** the change.

- Quit to main – return to BrickUtils main window.

In the lower part buttons are:

- New – create a new mapping equivalence
- Edit – change selected equivalence

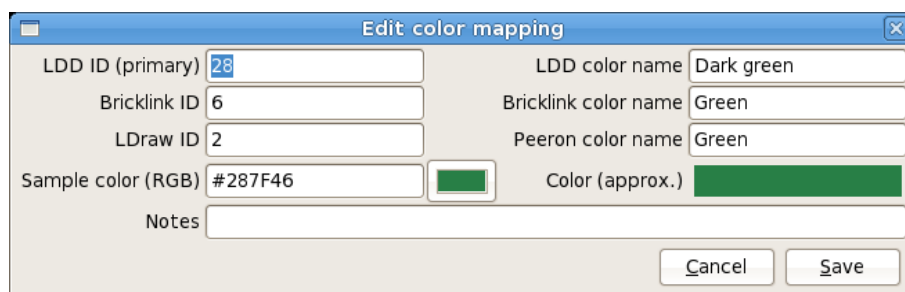


Fig. 12: Edit/New color dialog

- Delete – remove selected equivalence

When you choose “New” or “Edit” you get a dialog to add or change a color mapping.

There are only two values that are mandatory:

- LDD ID (primary) – the number that LDD assign to the color. This must be also unique, you cannot have duplicates
- LDD color name – the name that LDD assign to the color

Other values are:

- Bricklink ID – numeric ID of the color you choose from BrickLink that is equivalent to the LDD color. Must be a valid ID for BrickLink.
- BrickLink color name – free text, the name assigned from BrickLink to the color.
- LDraw ID – numeric, ID assigned to color in the well-known LDrawparts library (<http://www.ldraw.org/>).
- Peeron color name – free text, name assigned to color by Peeron, another fan website that offers parts and sets inventories (<http://www.peeron.com/>). Currently unused.
- Sample color, color choice button – a RGB color in “#rrggbb” hexadecimal notation (like in HTML colors) that will be used for display purpose only.
- Notes – free text. Use for comment or status updates. It is not used in any other part of BrickUtils.

You cannot duplicate definition, and program check values of LDD ID and BrickLink ID to avoid that.

Color mapping table is updated with catalog upgrade (see 4.12 How to upgrade Catalog). Your changes will be lost after update, so, it is better to notify developer to include a new color or to fix a wrong conversion.

If you change anything and try to exit, the dialog ask for saving changes.

6.3.2 Manage LDD to BrickLink part mapping

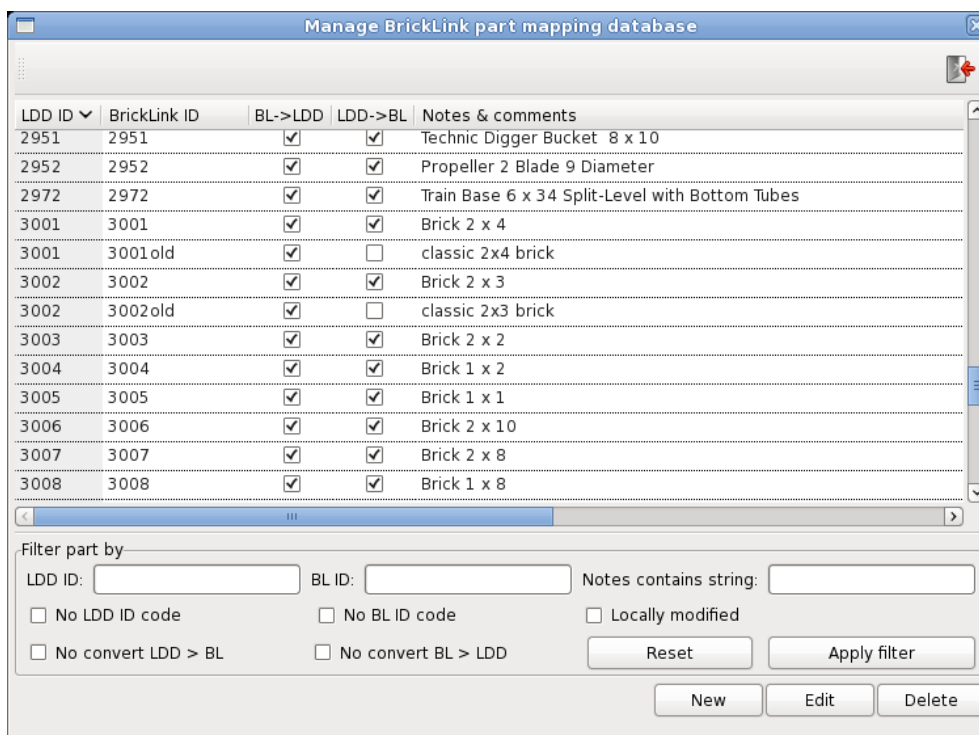


Fig. 13: Part mapping dialog

Similarly, you need parts mapping between LDD and BrickLink part ID.

The main difference is that LDD uses numeric only part number (or “design ID”), BrickLink uses alphanumeric part IDs.

Another difference regards how BrickLink consider composite or decorated parts. Some parts, like the shark figure, are considered as a single part by BrickLink (part #2547c01), when LDD treat as two or more distinct elements (shark body, part #2547, shark head/jaw, part 2548), but for other part is the opposite.

So you have to choice what you want and how program must treat every single equivalence.

6.3.2.1 How BrickUtils uses part equivalence

When program convert BrickLink part ID in LDD part ID, first checks in part mapping table if there is an equivalence with the same BrickLink part ID. If an equivalence if found, program uses it to convert part number.

If an equivalence is not found, program puts a “-” in the column of the LDD or BrickLink part ID, so you can easily know when you need to create an equivalence.

When converting a part from LDD to BrickLink, program first look in the part equivalence, and use it to convert part ID.

At the moment, the conversion between LDD and BrickLink doesn't handle equivalences other than 1:1 (that is when one part for LDD is one part for BrickLink).

Bricklink part conversion table is upgraded when catalog is upgraded, and local changes are lost (see 4.12 How to upgrade Catalog).

Under part list window, you can see an area with controls to define selection filter for parts display. Conditions are always in logical AND, that is: all conditions must be true at the same time. Conditions are:

- LDD ID – select all parts where LDD “design ID” starts with number you typed in
- No LDD ID code – select all parts where LDD “design ID” is not defined (i.e. is 0)
- No convert LDD > BL – select all parts where LDD “design ID” doesn't have a equivalent code in Bricklink
- BL ID – select all parts where Bricklink part ID contains the characters you typed in
- No BL ID code – select all parts where Bricklink part ID is not defined
- No convert BL > LDD – select all parts where Bricklink part ID doesn't have an equivalent LDD “design ID”
- Notes containing string – select all parts where “notes and comments” field contains the string you typed in

To apply filter you must click on “Apply” button. To remove all filters you must click on “Reset” button, removing all filters selections and pressing “Apply” don't work.

In the lower part you have three buttons, with the same function of color mapping dialog.

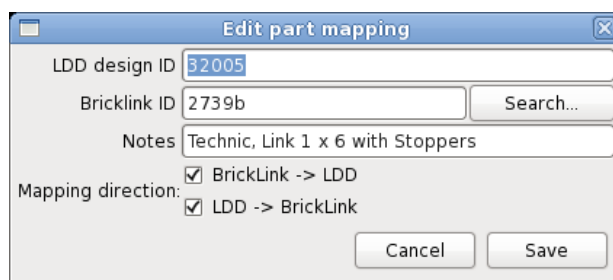


Fig. 14: New/Edit part equivalence

When you click on “New” or “Edit” you get the dialog in Fig. 14.

Values meanings are:

- LDD design ID – numeric, the part number (or design ID) that LEGO® Digital Designer uses to identify the part.
- BrickLink ID – alphanumeric, the part number used by BrickLink for the same part.
- Search – If you don't know the exact BrickLink ID, you can search in to the parts database.
- Notes – free text. It is not used in any other part, so you can use it to comment or status updates.
- Mapping directions – flags. Check the box for the direction where the equivalence applies. For example, the part in Fig. 14 is a Technic™ brick, and equivalence take place for conversion from BrickLink to LDD and from LDD to BrickLink. You can check one, both or none. If none checked the mapping equivalence is ignored.

The couple LDD ID and BrickLink ID must be unique. If you hit “Search” you will see a new dialog (Fig. 15).

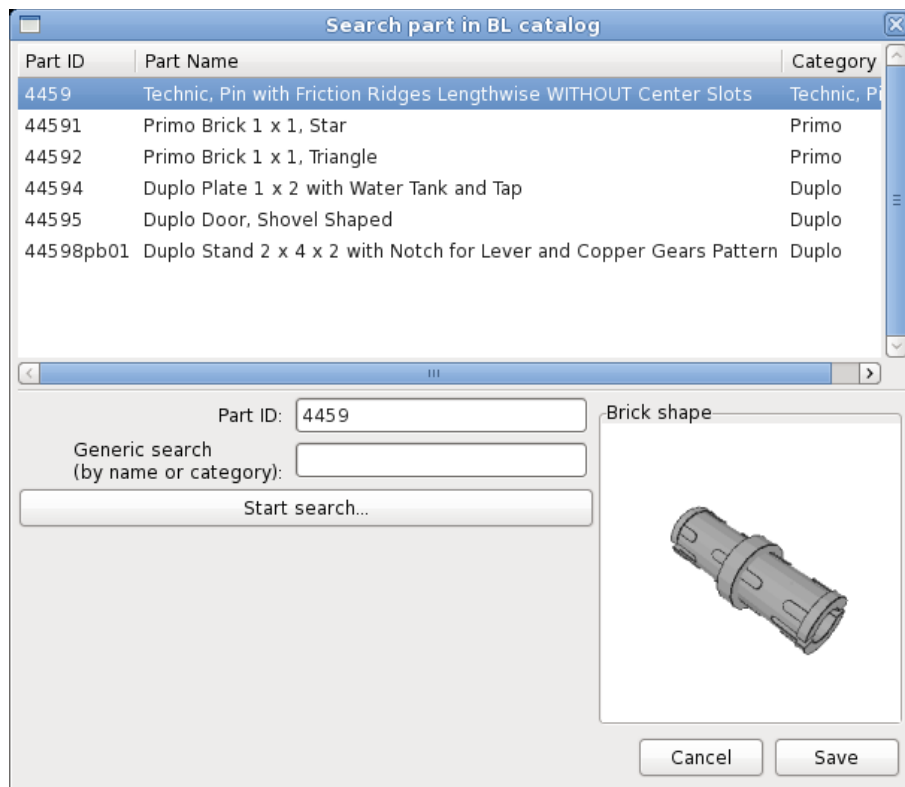


Fig. 15: Search for part in BrickLink catalog

From here you can search in the BrickLink parts catalog you imported in 6.2.1.

6.3.2.2 Search functions

Searching for “Part ID” means “all parts that starts with”. Searching for name or category is a full text search, so you can use two or more words to search in description. You can use the “-word” notation to exclude “word” and “word*” to search all word starting with “word”. Example of searches:

- “brick slope”
- “utensil minifig -head”
- “technic pin* friction”

After selecting a part and clicked on “Save”, part ID and description are copied in “BrickLink ID” and “Notes” fields of part mapping dialog.

6.3.3 Manage LDraw to LDD part mapping

As for BrickLink part database, we need a “translation table” between LDraw and LDD part database.

The table is used to convert part ID when you import a project file in LDraw-compatible format (like LDR and MPD).

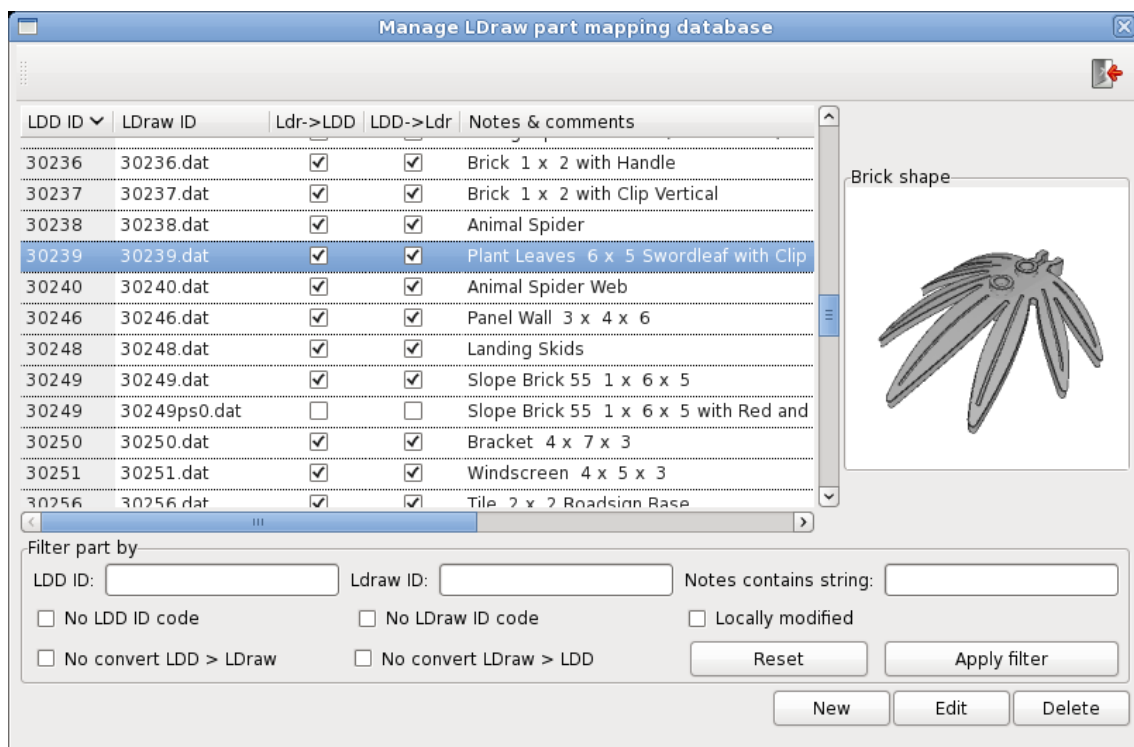


Fig. 16: LDraw to LDD parts translation table

The same table is used to retrieve the brick image from LDraw library, starting from LDD or BrickLink part ID. When part ID is in BrickLink format, it is first converted to LDD part ID, then in LDraw part ID.

Under part list window, there is a filter definition area with same use of Bricklink part list management dialog.

In addition, there is a box with brick shape, taken from LDraw part library.

The dialog has the same functions of BrickLink maintenance dialog, where you can add, change and delete part mapping between LDD and LDraw part library. When you hit “Edit” or “New” button you get a dialog to define part conversion.

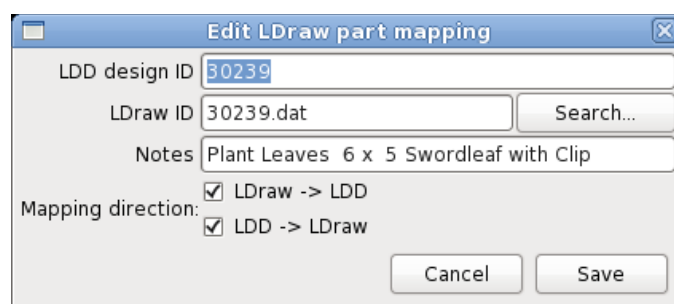


Fig. 17: LDraw edit dialog

The “Search...” button brings a dialog that allow a full text search for parts in LDraw parts library database.

As for colors and Bricklink parts, LDraw conversion table is upgraded with other tables when program do a catalog upgrade (see 4.12 How to upgrade Catalog).

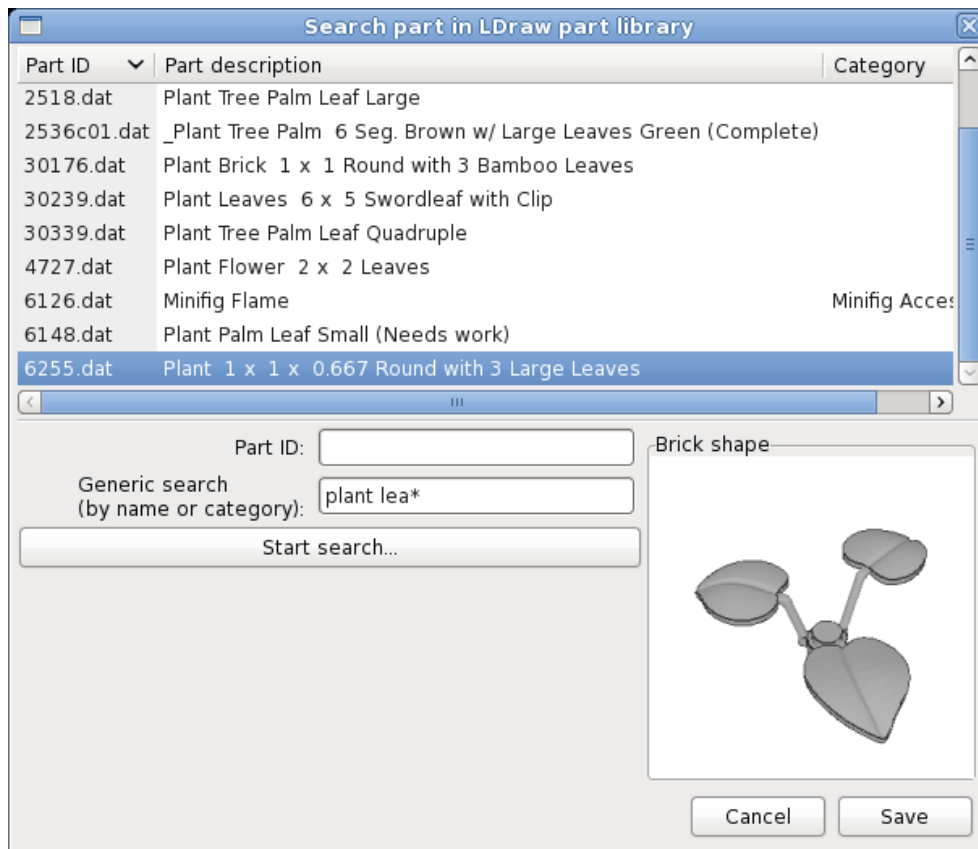


Fig. 18: Part search in LDraw part library

6.3.4 Manage LDD composite parts

There are some parts in Digital Designer that are made of two or more sub-parts. An example is the 2x2 plate turntable (LDD part ID #74340, Fig. 19, BrickLink part ID #3680c01/#3680c02), that is compound from two sub-parts: #3679 (top part) and #3680 (lower part).

The problem with these parts came when you needs to define what is the color of the whole part or, more precisely, what sub-part program must consider to define color and decoration.

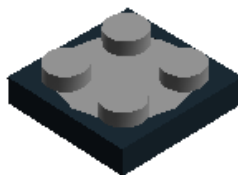


Fig. 19: Turntable
(LDD ID #74340)

So, there is a table that defines, for a set of composite parts, what sub-part is the source to assign a color and a decoration.

This is because LDD does not permits to “separate” composite parts in sub-parts, nor permits to use a sub-part alone.

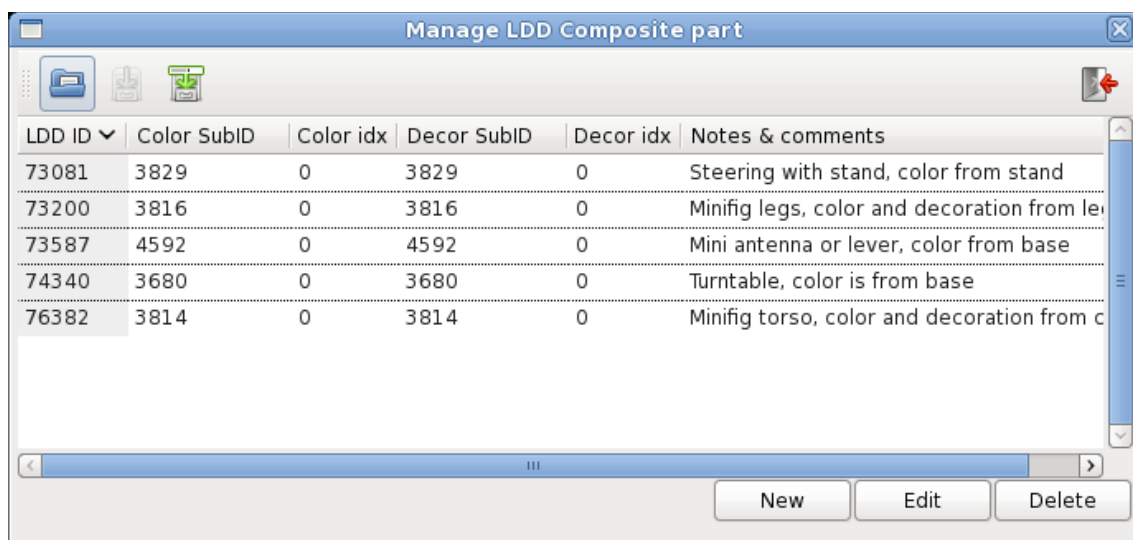


Fig. 20: Utility for define composite parts

This table is pre-filled, and will not receive updates, because the definitions are personal choices. It is up to user to define what sub-part program have to look for color or decoration.

In the predefined values there are few parts, and in the comment is explained from what sub-part are taken color and decoration values.

To define or change a composite part, buttons “New” and “Edit” uses the same dialog, Fig. 21.

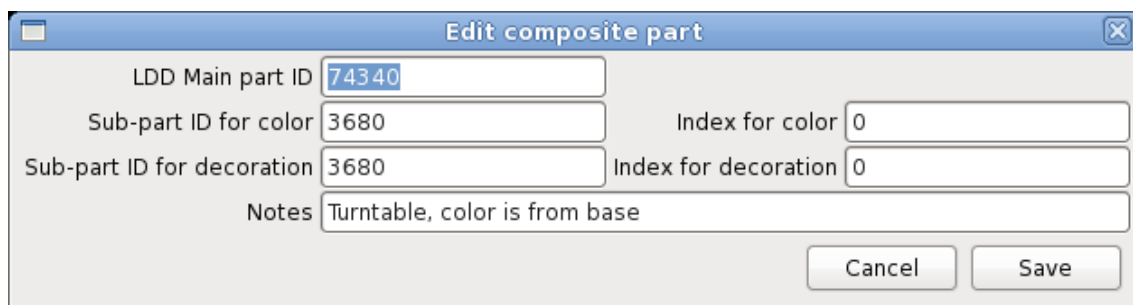


Fig. 21: Composite part definition

As you can see, you must select two sub-parts, one for color and one for decoration. They can be the same part. “Index for color” and “Index for decoration” refers to the internals of LDD: for some parts there can be more than one color and more than one decoration, i.e. for minifigures torso or legs, so LDD, instead of using a single color or decoration ID, uses a list of ID, separated with comma. You must define what of these ID must be taken in account. An example, is for minifigure torso (part ID #76382): it is compound from five sub-parts (a chest, two arms and two hands), and chest can have up two different decoration (front and rear), so the decoration for chest is a list of two IDs, first for front, second for rear. Numeration begins from “0”, so first ID is “0”.

Anyway, the definition of composite parts is not mandatory, it is only an help when importing large sets or projects, but even if you doesn't define any composite part, in the “Current brick list” you can edit color or decoration for every part at any moment.

6.4 Working with Current brick list

All operations such as importing or exporting brick lists, editing lists and checks if you can build a model take place in “Current brick list” tab, on main window. In the lower part there are buttons,

grouped by category of actions.

6.4.1 Importing an inventory from BrickLink

BrickUtils can import various type of XML lists generated from BrickLink user interface: set inventory, store inventory (for seller), order placed or received with detail items, wanted list mass upload (generated by BrickUtils, see 6.4.4, or from other utilities).

BrickLink Catalog Download - Mozilla Firefox

File Modifica Visualizza Cronologia Segnalibri Strumenti Aiuto

http://www.bricklink.com/catalogDownload.asp

BrickLink Catalog Download

BrickLink
Unofficial LEGO(R) Marketplace

SEARCH
Catalog Items [Go!]
Advanced Search Site Map New Items For Sale

Welcome!
Login Register
Special Message

Home Buy Sell Search Members Catalog Wanted MyBrickLink Orders Problem Help Forum Chat Links

View Search Inventories In Relationships Colors Price Guide Download Add or Change Logs Credits My Settings

Catalog Download

☐ Catalog Items:
Sets [v]
☐ Include Year
☐ Include Weight
☐ Include Dimensions

☐ Item Types
☐ Categories
☐ Colors
☐ Part and Color Codes

☒ Inventory:
Set [v]
Item No: 7741-1

Download Format:
XML [v]

Download

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Completato

Fig. 22: Set inventory download

This is one of the method to populate your brick catalog. You, as a LEGO® fan, own lot of sets, every set is made of bricks, buy bricks from other fans using BrickLink.

BrickLink, through volunteers, made available sets inventory that can be downloaded, via the same web site used in “6.2.1 Updating BrickLink parts catalog”. In Fig. 22 you can see the BrickLink web interface ready to download a set, #7741-1 “Police Helicopter”. The downloaded file is usually named S-**set-num**.txt, where **set-num** is the complete set part number, in this example “7741-1”.

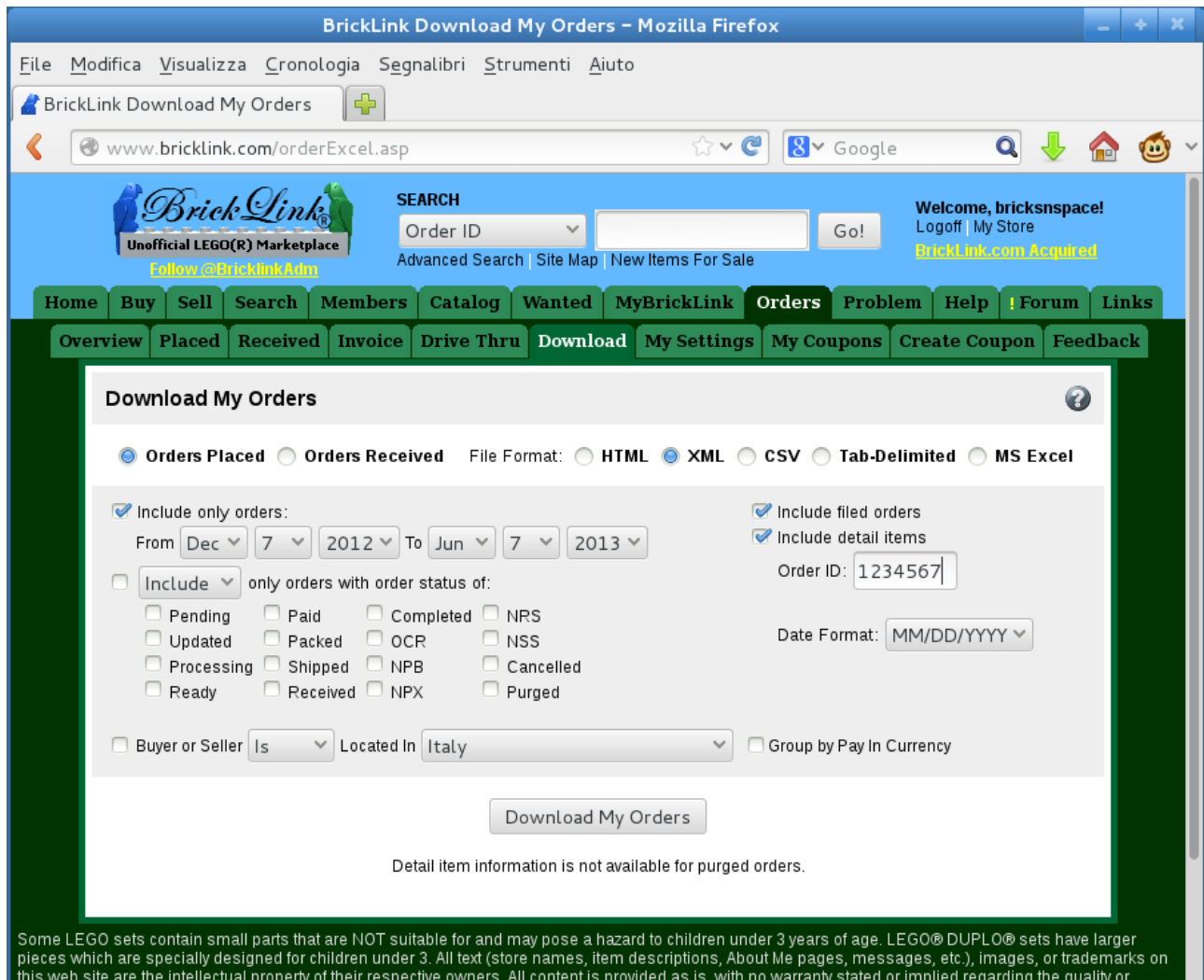


Fig. 23: Orders download page

If you buy bricks on BrickLink, you place orders to seller and BrickLink keep track for every order you place, maintaining a list of bricks you bought. The same if you are a seller on BrickLink, you have a list of orders received, with parts details.

You can download those lists, with a single order or with all orders listed, and you can import in BrickUtils. Going to “Orders” in your account in BrickLink, you can select “Download” subpage entering in a page to select orders (Fig. 23) You must check “include detail items” to get bricks listed, and if you want only one order you must put order ID in “Order ID” entry. If you leave blank you will get a list containing all orders.

Check also that you have selected “XML” as file format. You will get a file named “orderxml.txt”.

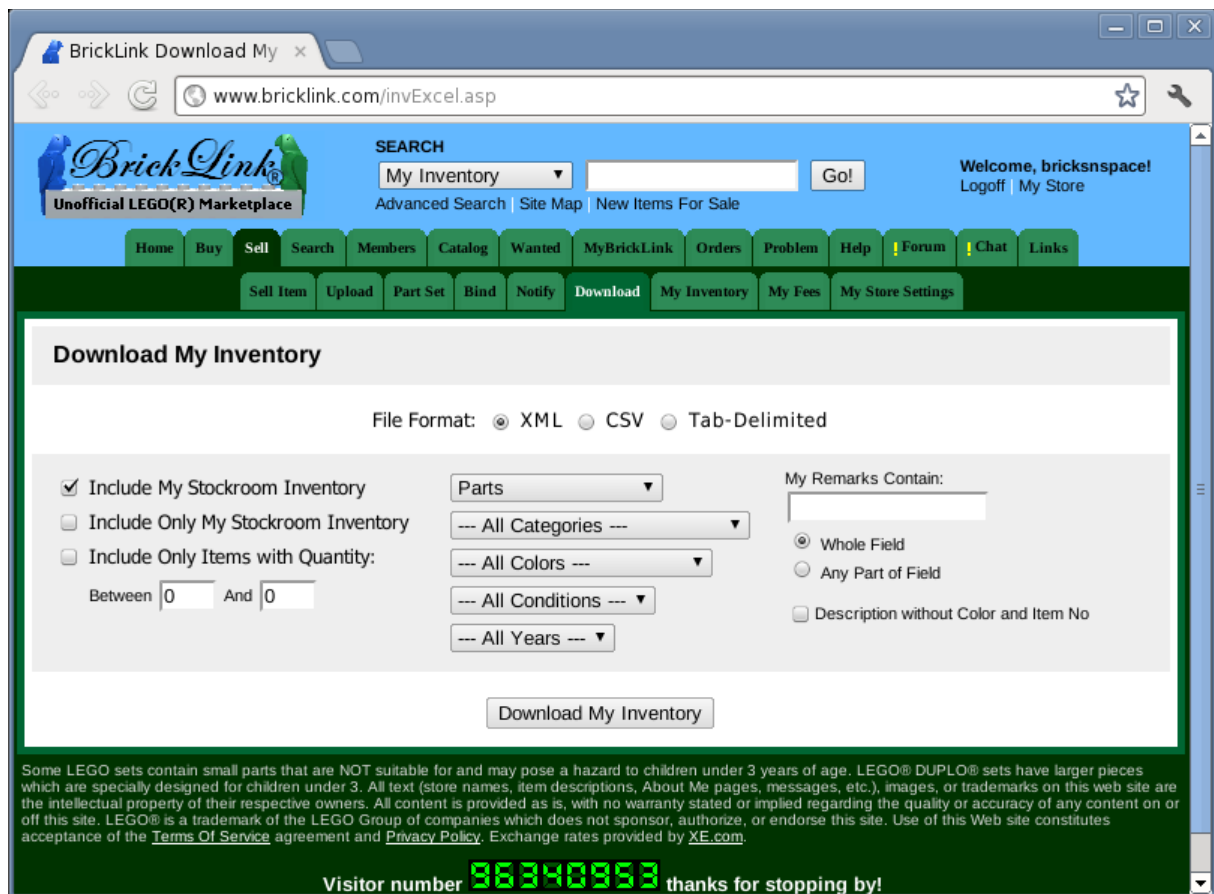


Fig. 24: Store inventory download

If you have a store (i.e. you sell bricks on BrickLink), you have also a function to download your store inventory, under “Add Items to My Inventory”. In Fig. 24 you can see the web page, available only to sellers on BrickLink.

Select “File Format” as XML, choose to get only “parts”, and you will get a file named “invxml.txt” that holds your store brick list, ready for import.

Of course, in BrickUtils you will not store prices, conditions and other information about selling bricks or order placed, it isn't the program focus, but if you have spent a lot of time do to an inventory of your bricks, you can import it in BrickUtils, saving a lot of time.

You can also import XML files used for “Wanted List Mass Upload” BrickLink function, a file format generated by BrickUtils (see 6.4.4 Exporting as a BrickLink “Wanted List Mass Upload” file) and some other utilities (like LDD Manager <http://www.eurobricks.com/forum/index.php?showtopic=41993>)

In BrickUtils, in “current brick list” tab, in “Import/Export” menu, select “Import BL Inventory”. You will see a dialog.

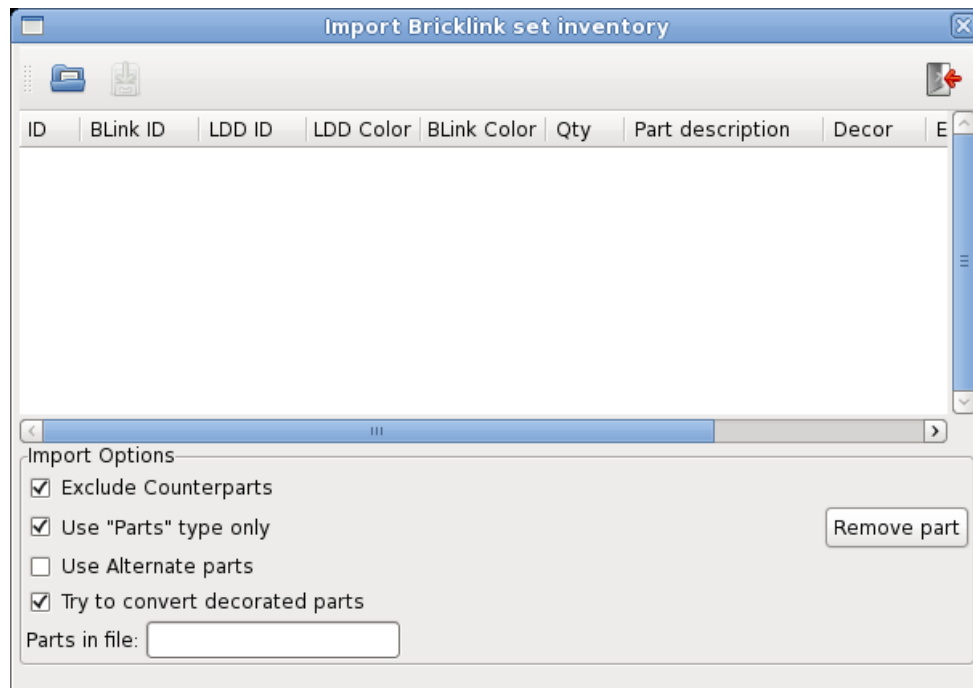


Fig. 25: BrickLink set inventory import dialog

In the top toolbar you have (left to right):

- Open BrickLink set inventory – select set or store inventory file and import it.
- Save imported part list – save part list as Current brick list.
- Return – return to BrickUtils main window.

In the lower part you have:

- Exclude Counterparts – (see <http://www.bricklink.com/help.asp?helpID=1562>) exclude parts marked as Counterpart in set inventory (see below). Default is to exclude.
- Use “Parts” type only – In set inventory normal parts are identified with “P” in TYPE field, Minifigs are marked as “M”. This option is used to excludes minifigs from inventory. Minifigs are really complex to manage and BrickUtils is not able to manage them, for now. Default is to consider only parts.
- Use Alternate parts – (see <http://www.bricklink.com/help.asp?helpID=1562>) sets can have some parts in two or more variants, because of production process. In BrickLink sets, these parts are marked as alternate. Default is to use “regular” parts.
- Try to convert decorated parts – if a part is decorated BrickLink consider it as a different part from non-decorated, adding a code for determine the type of decoration. BrickUtils detects decorated parts and attempt to convert BrickLink part code in the related LDD part code for non-decorated part. If you don't want automatic conversion deselect this option.
- Remove part – deletes selected part from list.

After downloaded a set or a store inventory, open it with “Open Bricklink set inventory”. After import run, a list of parts is displayed in dialog.

If you wish to change import options, like “Use Alternate parts”, remember that changes are not effective in the already imported list: you have to reload set inventory from file.

After import your list shows parts with colors, ID, names and so on.

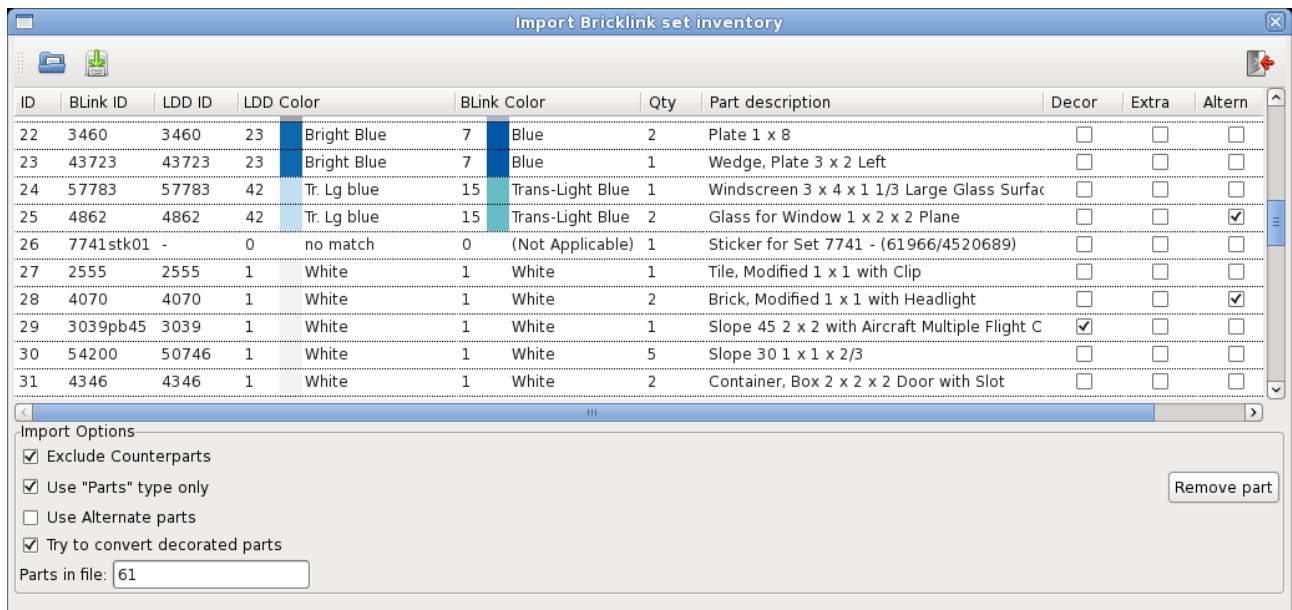


Fig. 26: Set 7741-1 imported

Note that some parts are flagged as “Extra”, and some other with “Alternate” available. Note part number 26: this part does not have an equivalence in LDD. This always happen with sticker sheet included in set: BrickLink set inventories enlist it as a regular part, but you can safely ignore in your catalog.

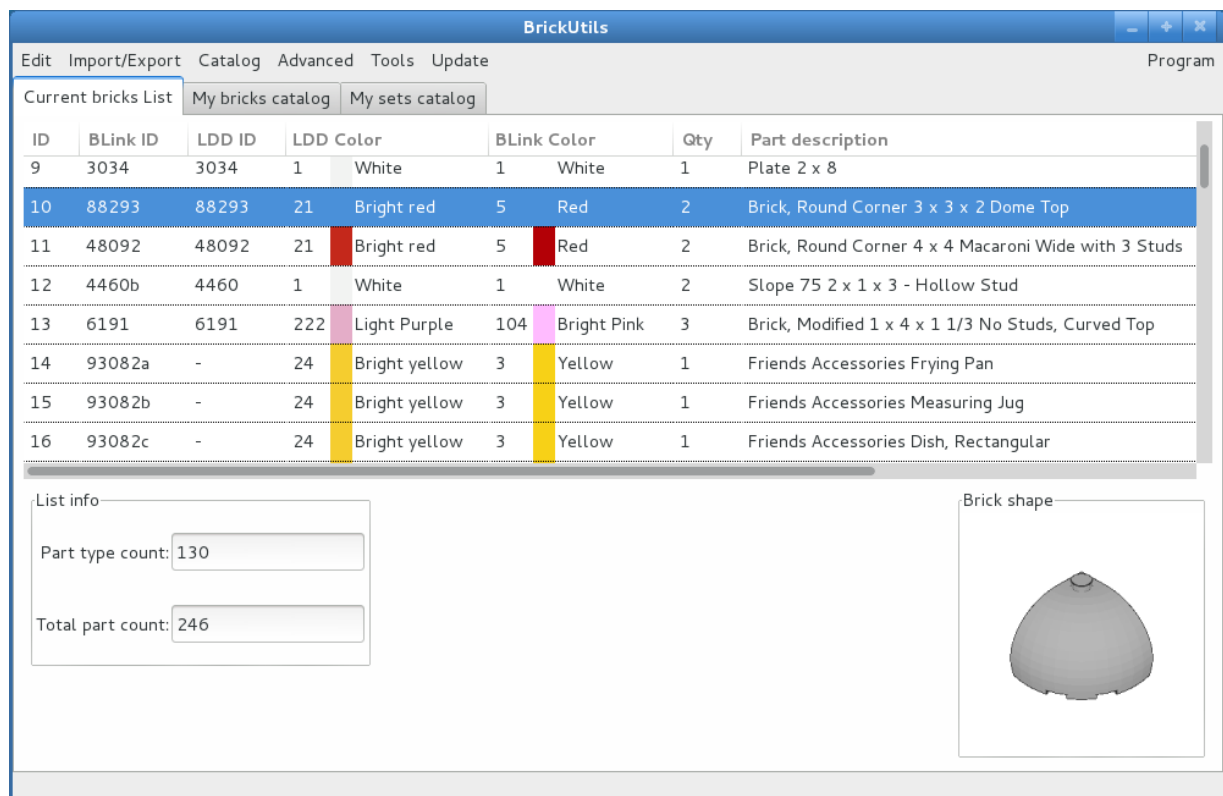


Fig. 27: Main window, Current brick list after import

Now you can delete parts, for example the sticker sheet, and save the list as Current brick list. When you return to main window, in the “Current brick list” tab you will see the imported part list.

Note part ID 14,15,16: these parts have no equivalence with LDD part ID, same as part 26 in previous picture, so you have to define manually which LDD part is equivalent. You can use two

strategies: insert an equivalence in the part mapping table (see 6.3.2 Manage LDD to BrickLink part mapping) and reload the set inventory to get the change, or manually edit the part ID with functions available in the Current brick list.

6.4.2 Importing LDD project

You can import LDD projects either from LXF files (the native LDD file format) or from LXFML files, that are XML files with a specific structure and his own tags. Program is able to detect what type of file you choose.

In the top toolbar you have (left to right):

- Open LDD project file – select project (LXF or LXFML) file and import it.
- Save imported part list – save part list as Current brick list.
- Return – return to BrickUtils main window.

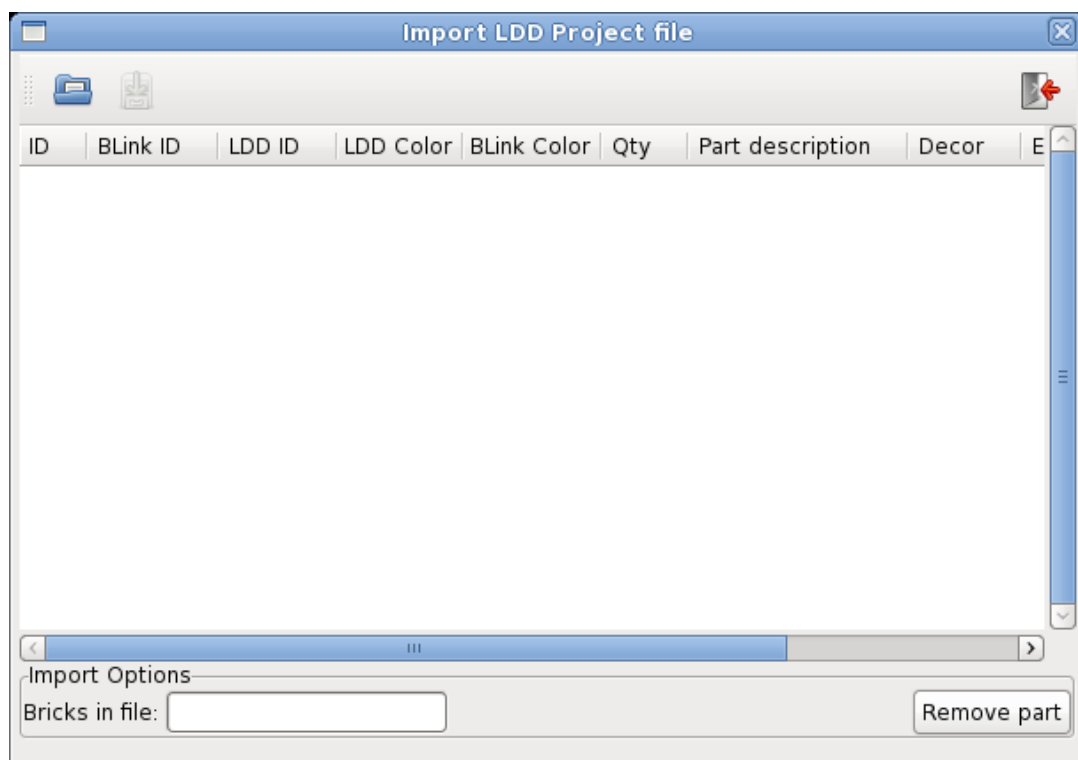


Fig. 28: LDD import dialog

In the lower part:Brick in file – it is a counter of total bricks type read from file.

- Remove part – remove selected part from list.

Parts are automatically converted in BrickLink part codes, when available.

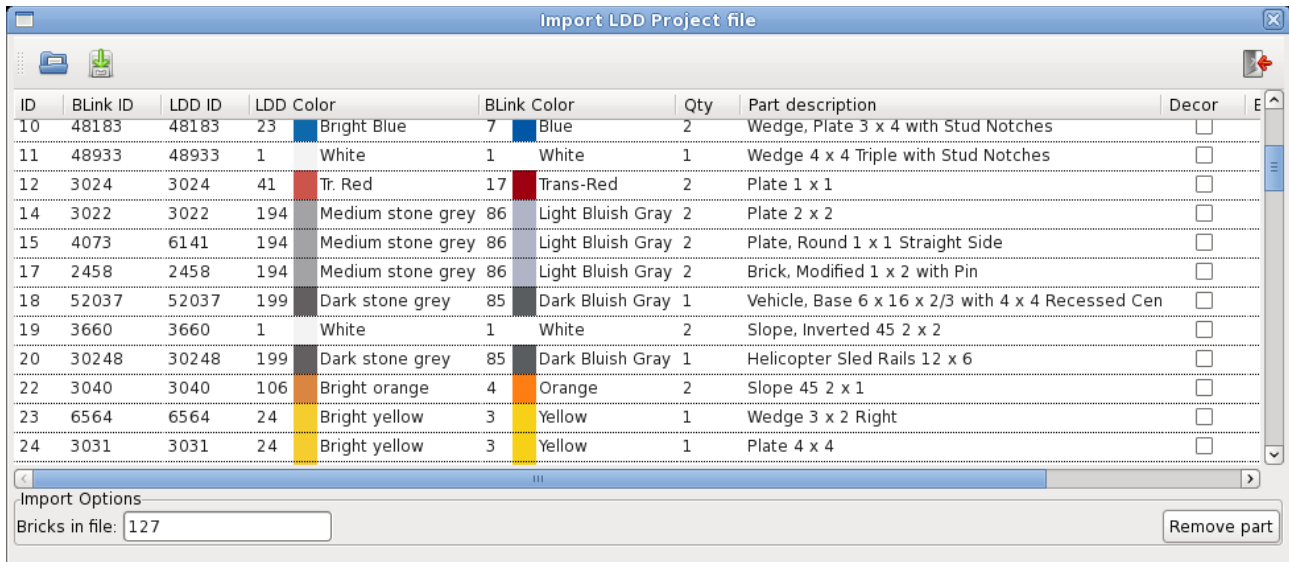


Fig. 29: An imported LDD project file

If a LDD part doesn't have a BrickLink equivalent, in the “BLink ID” column you will see a “0” as part ID.

There are “Altern”, “Extra” and “Cnterp” columns, but when importing LDD projects they are meaningless, so you can ignore it.

6.4.3 Import LDraw file

Some CAD programs uses the brick database from LDraw (<http://www.ldraw.org/>), a free and user supported bricks and parts catalog.

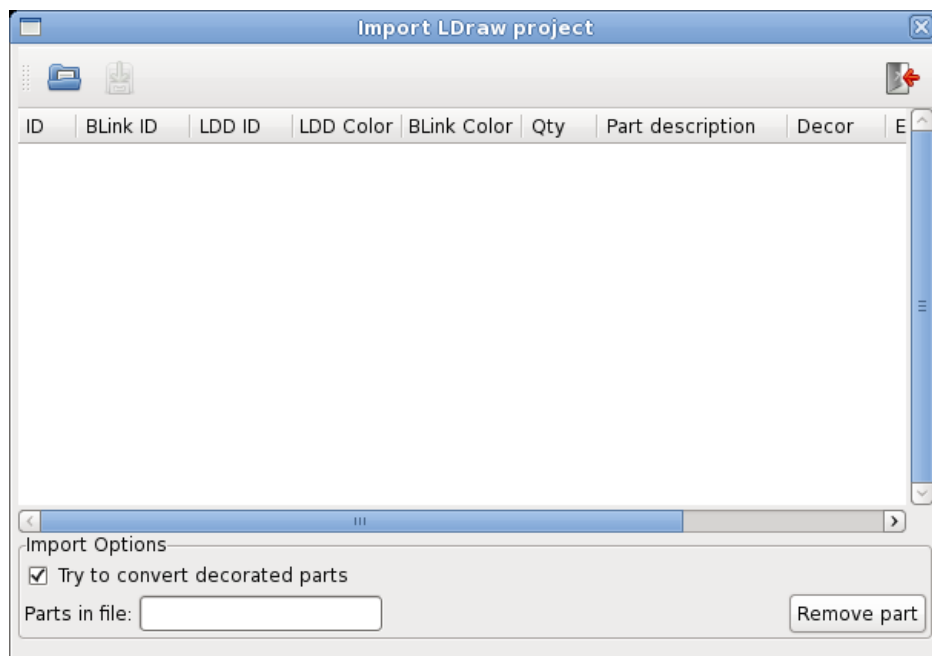


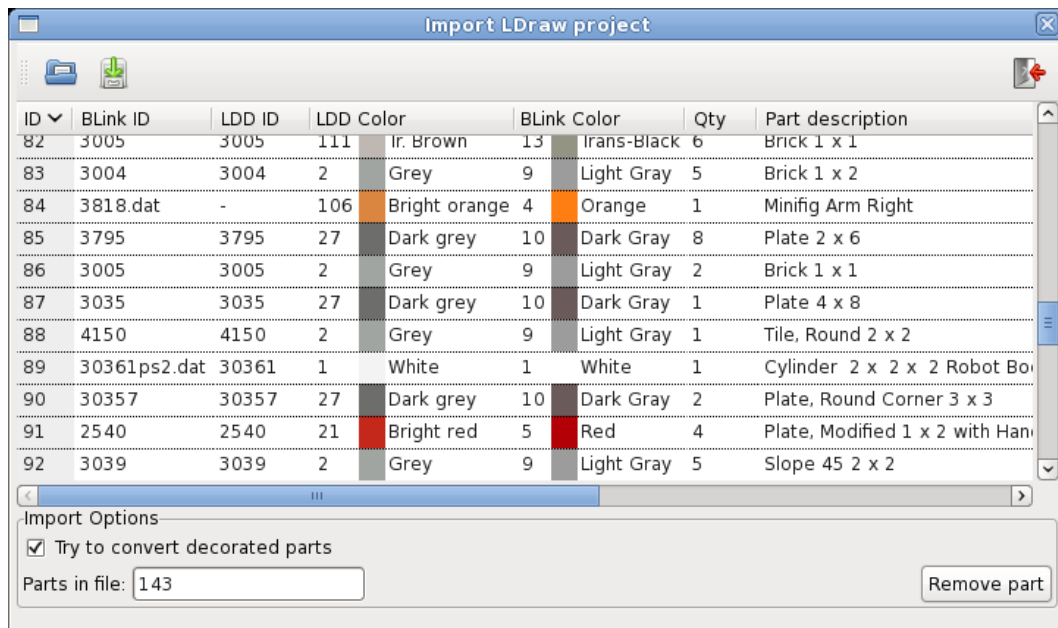
Fig. 30: LDraw import dialog

There are two file format used by such programs: LDR and MPD. BrickUtils is able to read both.

As you can see (Fig. 30) it is identical to LDD import dialog (Fig. 28), but part ID conversion uses the LDraw to LDD mapping table (see 6.3.3 Manage LDraw to LDD part mapping), then LDD to

BrickLink conversion table to get BrickLink part ID.

If a part is not found in LDraw to LDD database, it is listed under BrickLink ID column with raw LDraw part ID and description from LDraw part library.



ID	BLink ID	LDD ID	LDD Color	BLink Color	Qty	Part description
82	3005	3005	111 Ir. Brown	13 Trans-Black	6	Brick 1 x 1
83	3004	3004	2 Grey	9 Light Gray	5	Brick 1 x 2
84	3818.dat	-	106 Bright orange	4 Orange	1	Minifig Arm Right
85	3795	3795	27 Dark grey	10 Dark Gray	8	Plate 2 x 6
86	3005	3005	2 Grey	9 Light Gray	2	Brick 1 x 1
87	3035	3035	27 Dark grey	10 Dark Gray	1	Plate 4 x 8
88	4150	4150	2 Grey	9 Light Gray	1	Tile, Round 2 x 2
89	30361ps2.dat	30361	1 White	1 White	1	Cylinder 2 x 2 x 2 Robot Bo
90	30357	30357	27 Dark grey	10 Dark Gray	2	Plate, Round Corner 3 x 3
91	2540	2540	21 Bright red	5 Red	4	Plate, Modified 1 x 2 with Han
92	3039	3039	2 Grey	9 Light Gray	5	Slope 45 2 x 2

Import Options

☒ Try to convert decorated parts

Parts in file: 143

Remove part

Fig. 31: Imported LDraw file

In Fig. 31 you can see an example. Part number 84 doesn't have an equivalence in LDD, so part ID is listed as raw LDraw ID ("3818.dat").

Note also part number 89: it is a decorated part using decoration code in LDraw. Part is automatically converted in LDD part, but original code is leaved in original form. This is because decoration code differs a lot between LDraw and BrickLink, so it is up to you to define decoration type in BrickLink code, if you want to export list for buying bricks.

Automatic conversion for decoration can be disabled via "Try to convert decorated parts" option.

6.4.4 Exporting as a BrickLink "Wanted List Mass Upload" file

Once you have your "Current brick list" populated, you can export as so called "BrickLink Wanted List Mass Upload" XML file (see <http://www.bricklink.com/help.asp?helpID=207>).

With this file you can automatically compile a list of bricks to buy from vendors in BrickLink, instead of compiling your wanted list manually, one brick at time.

You can, also, define some options for all bricks in list.

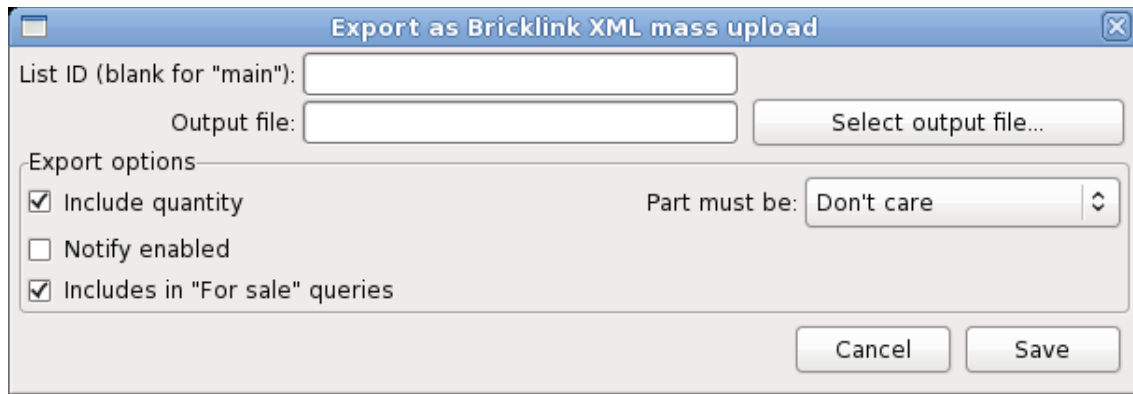


Fig. 32: Wanted List Mass Upload XML file options

Options are (from top):

- List ID (blank for “main”) – In BrickLink you can define more lists, and every list is identified by a number, assigned from BrickLink web application. If you want to assign bricks in this list to a specific list, insert the list ID here. Leave empty for use your “main” (default) list.
- Output file/Select output file – where to export the list. You can select file clicking on button.
- Include quantity – to include brick count from list, so the list contains the exact quantity needed.
- Part must be – you can define the status of parts (used, new or don't care). This applies to all bricks in list.
- Notify enabled – if a brick vendor put on sell bricks you want you will receive a notification as you defined in BrickLink user profile. Default is disabled. This applies to all bricks in list.
- Includes in “For sale” queries – If BrickLink can include your bricks and quantities in “For sale”/“Wanted” query in parts catalog.

The output file is an XML file that comply with BrickLink Wanted List Mass Upload specifications (see <http://www.bricklink.com/help.asp?helpID=207>). BrickUtils is able to read and import this file format (see 6.4.1 Importing an inventory from BrickLink).

At the moment, only items of type “parts” are considered.

6.4.5 Export as printable HTML file

If you want to pick bricks in “Current brick List” from your brick collection it is good to have a paper sheet with list of needed bricks, with color shape, quantity.

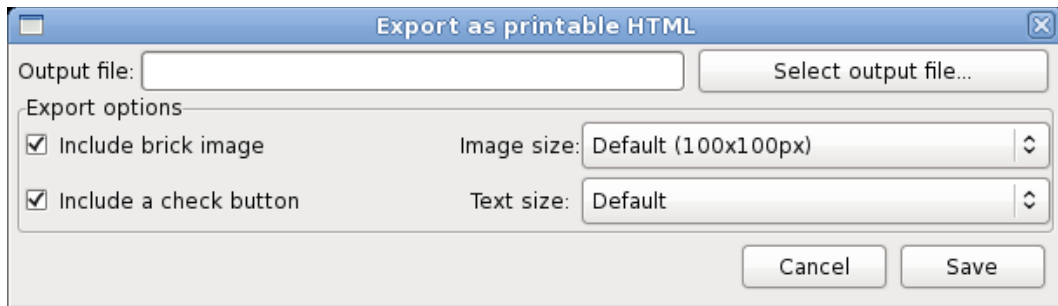


Fig. 33: Export as HTML dialog

Options are (from top):

- Output file/Select output file – where to export the list. You can select file clicking on button.
- Include brick image – if you want a thumbnail with brick shape for every brick in list
- Image size – if you check “Include brick image”, you can select the size of images: 75, 100 (default), 150 or 200 pixel.
- Include a check button – if checked, list includes a column with a check button. It is useful to track what bricks you have collected from your collection. It works even if you don't print the list: when you load list in a browser, you can “check” a brick when you collect it, but remind that if you “reload” page you lose all checks.
- Text size – select text size for brick description.

When you click on “Save” button, you will see a progress bar that inform you about export processing.

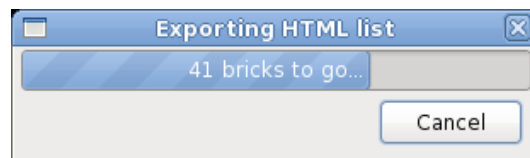


Fig. 34: Export progress

It can take long time if you have a slow Internet connection and your image cache is empty (see 7.2 Brick shapes and image cache).

List sorting is borrowed from list you are printing.

6.4.6 Add part dialog

If you want to add a part to “Current brick List”, you can select ID, color, description and quantity.

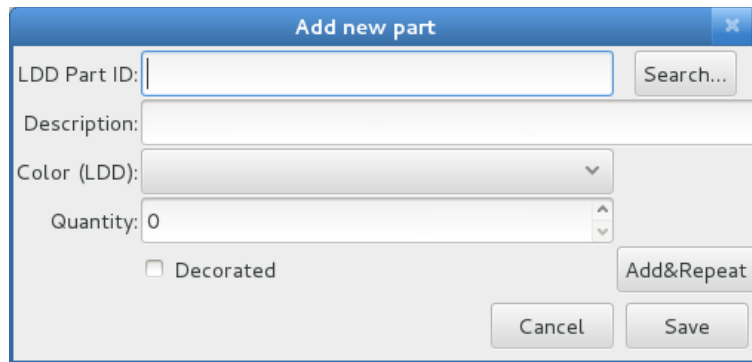


Fig. 35: Add part

From top:

- LDD part ID – a numeric value also known as “Design ID”. It is unique for every brick shape.
- Search – Brings the search dialog on BrickLink database (see Fig. 15: Search for part in BrickLink catalog). If you choose a part that not exists in part mapping database (i.e. a part that not exists in LDD), program will warn you and refuse to save ID and description in “Add new part” dialog.

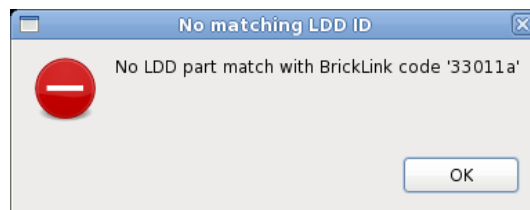


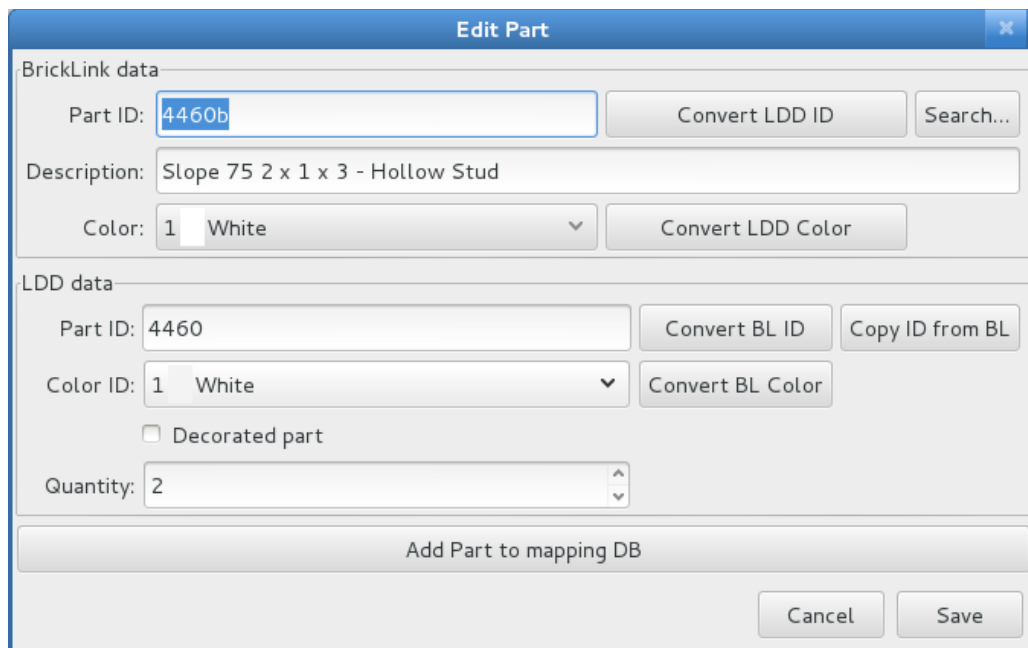
Fig. 36: No such part in LDD

- Description – A free text description of part.
- Color (LDD) – the color of part, chosen from color mapping database.
- Quantity – how many bricks of this type you want to add to list.
- Decorated – check if part is decorated (i.e. has a painted face).
- Add&Repeat – add part and remain in this dialog, maintaining all data you entered, allowing to add more parts with different color or different part with same color without reenter all details.

Program automatically adds all other data (BrickLink ID and color, part ID).

6.4.7 Edit part dialog

If a part ID or a color is not automatically converted from BrickLink to LDD or you may want to change occasionally how a color or a part is converted from BrickLink to LDD, so you can use this dialog. Note that there are no checks on duplicates, but program take account of every brick you have in Current brick list.



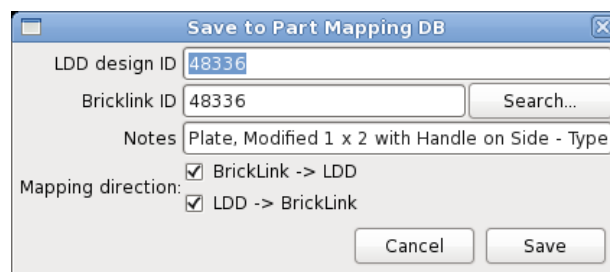
The 'Edit Part' dialog box is divided into two main sections: 'BrickLink data' and 'LDD data'. In the 'BrickLink data' section, there is a 'Part ID' field containing '4460b', a 'Convert LDD ID' button, and a 'Search...' button. Below this is a 'Description' field with the text 'Slope 75 2 x 1 x 3 - Hollow Stud'. The 'Color' is set to '1 White' with a dropdown arrow, and a 'Convert LDD Color' button is next to it. The 'LDD data' section contains a 'Part ID' field with '4460', a 'Convert BL ID' button, and a 'Copy ID from BL' button. Below this is a 'Color ID' field with '1 White' and a 'Convert BL Color' button. There is an unchecked checkbox for 'Decorated part' and a 'Quantity' field set to '2'. At the bottom of the dialog is a large 'Add Part to mapping DB' button, and at the very bottom are 'Cancel' and 'Save' buttons.

Fig. 37: Edit part dialog

There are buttons near color and part ID fields that convert codes using internal equivalence databases. So if you enter a part ID in LDD section, in BrickLink section you can use “Convert LDD ID” button to get the equivalent part ID in BrickLink catalog. Same for colors.

In the lower part, you can see a large button: “Add Part to mapping DB”. This is useful when Bricklink part ID is not in part mapping DB, so you can define which LDD part ID is equivalent and add mapping to DB, without leaving this dialog.

After editing the LDD part ID, click on “Add Part to map DB”, and you will see a dialog like you add a new mapping in part mapping DB (see 6.3.2 Manage LDD to BrickLink part mapping).



The 'Save to Part Mapping DB' dialog box contains an 'LDD design ID' field with '48336'. Below it is a 'Bricklink ID' field with '48336' and a 'Search...' button. The 'Notes' field contains the text 'Plate, Modified 1 x 2 with Handle on Side - Type'. Under 'Mapping direction:', there are two checked checkboxes: 'BrickLink -> LDD' and 'LDD -> BrickLink'. At the bottom are 'Cancel' and 'Save' buttons.

Fig. 38: Add part to mapping DB

Bricklink ID and Notes are copied from the Bricklink database. Conversion is bidirectional, by default, but you can define a part conversion that works only from BrickLink to LDD, or from LDD to BrickLink. A good example is the LDD part #4085.



Fig. 39:
part #4085

In BrickLink there are four different part ID that are really similar. In part mapping database there are four mapping, one is bidirectional, 4085 (BL) match part 4085 (LDD), and other three are only

valid for convert from BrickLink to LDD.

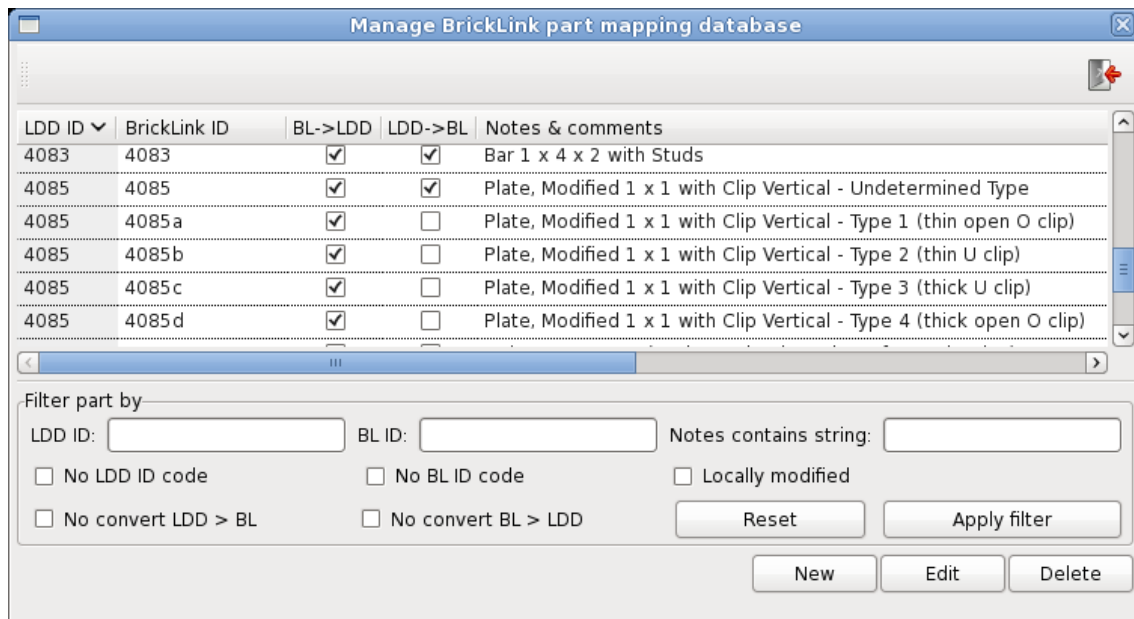


Fig. 40: Multiple part mapping

As you can see in Fig. 40 BrickLink part #4085b,c,d are converted in LDD part #4085.

6.4.8 Remove counterparts, extra part, all parts

When you import BrickLink set inventory (see 6.4.1) you can have two part type: counterparts and extra parts:

- counterparts are alternative parts in set, like part with sticker applied or combination of parts (like wheel and tire listed as single part instead of two). Almost always, counterpart do not have an equivalent part in LDD, so often you can delete it without broke set inventory integrity.
- LEGO® always put in set bags one additional part for every really little part (like 1x1 round plates or Technic pin). This is called “Extra parts” because you can complete a set without using these extra parts, but when you have lot of sets these parts are in good number, so you can add to your catalog.

Three buttons in “list editing” are dedicated to remove counterparts and extra parts or to empty the Current brick List.

6.4.9 Add to catalog

After you reviewed the list, you can add all parts to your catalog of bricks. Program asks if you want to keep the Current brick list or not.

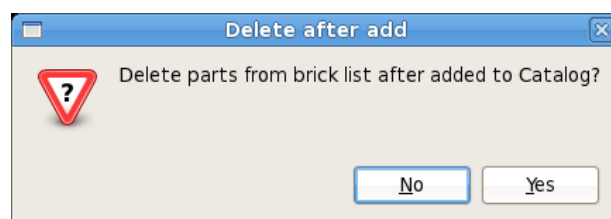


Fig. 41: Add to catalog dialog

If you plan to work again on Current brick list, you can keep parts. Click on “Close window” button or pressing **ESC** key return to main program, doing nothing.

After add parts, program informs you about parts added, not added, new brick types in catalog.

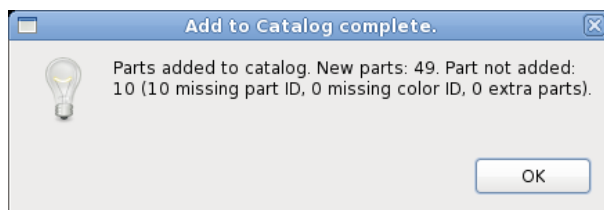


Fig. 42: Adding summary

In the above figure, there are 49 new brick types, ten parts were not added because part ID was missing.

Adding to catalog cannot be undone easily, so double check your Current brick list, before adding it to catalog.

6.4.10 Add to catalog as a Set

Alternatively, you can add parts from Current brick list to catalog grouping in a set, official if bricks are from an official LEGO® set, custom if bricks are from unsorted lot. In the catalog, bricks added as set are indistinguishable from other bricks, and if a brick already exists in catalog, the new bricks are added to the other you already own.

Vantages of adding list as a set are:

- Maintain a catalog of set you own
- Manage bricks generic lot
- When you do not own anymore a set, you can delete it from set catalog, and all bricks in the set are subtracted from catalog leaving bricks that belongs to other sets, or those you added individually.

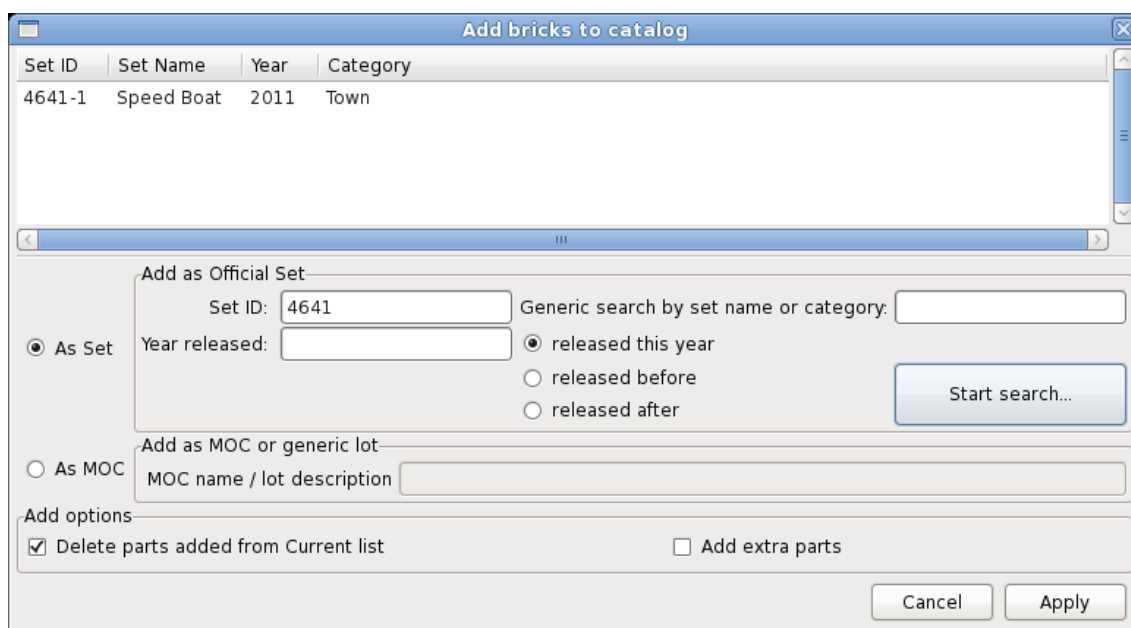


Fig. 43: Add as a Set dialog

To add as a set, you will select if you want add as official set or as a custom set.

If you choose to add as an official set, you can select the appropriate set using set search dialog.

You can search a set by:

- set id – put the number of set (like 7741) and click “Start search”. The program will show all set that set ID starts with the number you entered. So, if you search “774”, program will show you all sets from 7740 to set 7749.
- Year released – the year when set is released to the public. You can search for specific year (default, “released this year”), before this year (“released before”) or after (“released after”) selecting the radio button on the right.
- If you want to do a generic search, enter a string in “Generic search” and click on “Start search”. Search is full text, as in 6.3.2.2 Search functions.

You can combine the search terms. If you enter a year and the text “fire”, you can get all sets related to fire released in that year. All strings are case insensitive.

Once you have found the right set, you can add both set and bricks to the respective catalog clicking on “Apply”. As for previous function, after adding you get a summary of the operation.

If you want to add as a generic lot, you must select “As MOC” radio button, giving a name or a description for lot.

Note that if you own two or more identical sets and you want to add these sets, in the sets catalog you will see the set repeated as many time as number of identical sets you have.

The reason for this behavior is that every set is “linked” with its own bricks in main catalog, so when you want to delete a set, you can delete all bricks in set, and only these.

Next, you can choose to delete added bricks from “Current brick list” and if you want to add “Extra” parts in selected set. If you choose to leave out “Extra” parts, you can add them to catalog as “free” parts.

A reason for leaving out “Extra” parts from a set is when you want to leave a set “built”: you can delete parts and set from catalog, but you can use “Extra” parts for other builds.

6.4.11 Check if can build

This is one of the powerful function in program. Once you have populated your catalog of owned bricks, you can load a LDD project or a BrickLink set inventory and check if you have all bricks needed to build the model in the LDD project or in set inventory.

At this point you must have:

- BrickLink databases loaded and updated (see 6.2.1,6.2.2 and 6.2.3)
- Part and color mapping table populated (see 6.3)
- Your catalog of owned bricks
- a model or a set inventory loaded in Current brick list

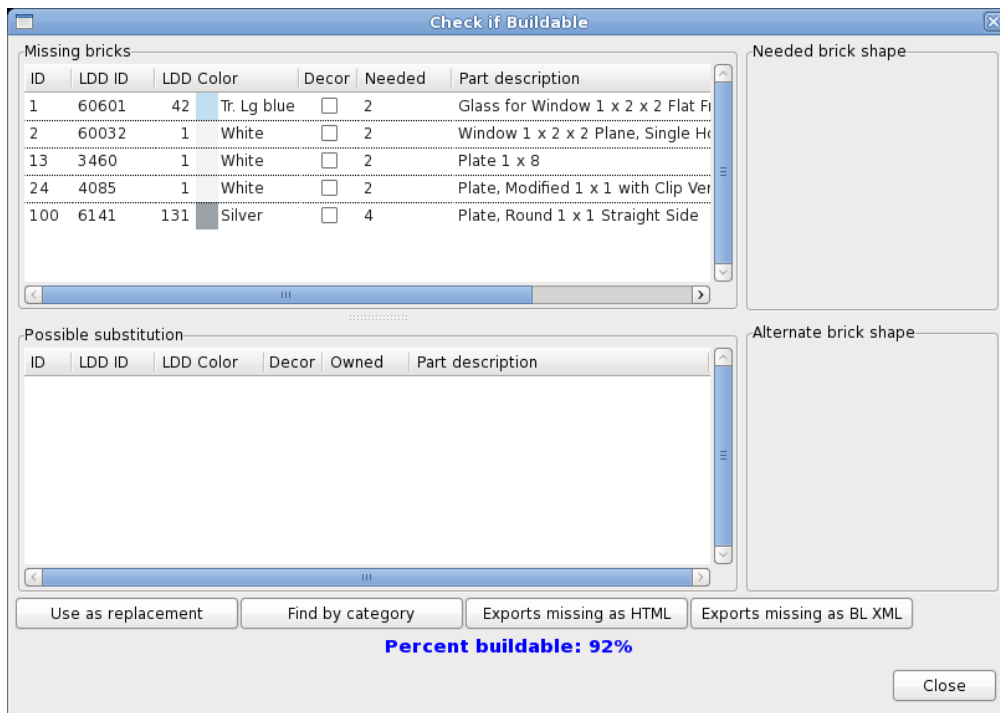


Fig. 44: Check if a model can be built

Click on “Can build?” button, and you see a dialog in Fig. 44.

Dialog is divided in some areas:

- in the upper part you will see the bricks that aren't in your catalog, i.e. bricks you don't own.
- In the middle part you have the list of possible substitution for bricks you don't own. Alternatives take account of bricks that are already needed to build the model.
- In the lower part you have some buttons: “Use as replacement”, “Find by category”, “Exports missing as HTML” and “Exports missing as BL XML”. Last, the percentage of brick type needed to build the model you have.

Click on one of the bricks in the upper part, and you may get a reply that say “no alternatives”, i.e. you don't own any brick of this “shape”. If you own bricks of same “shape”, you will see the list, as in figure below.

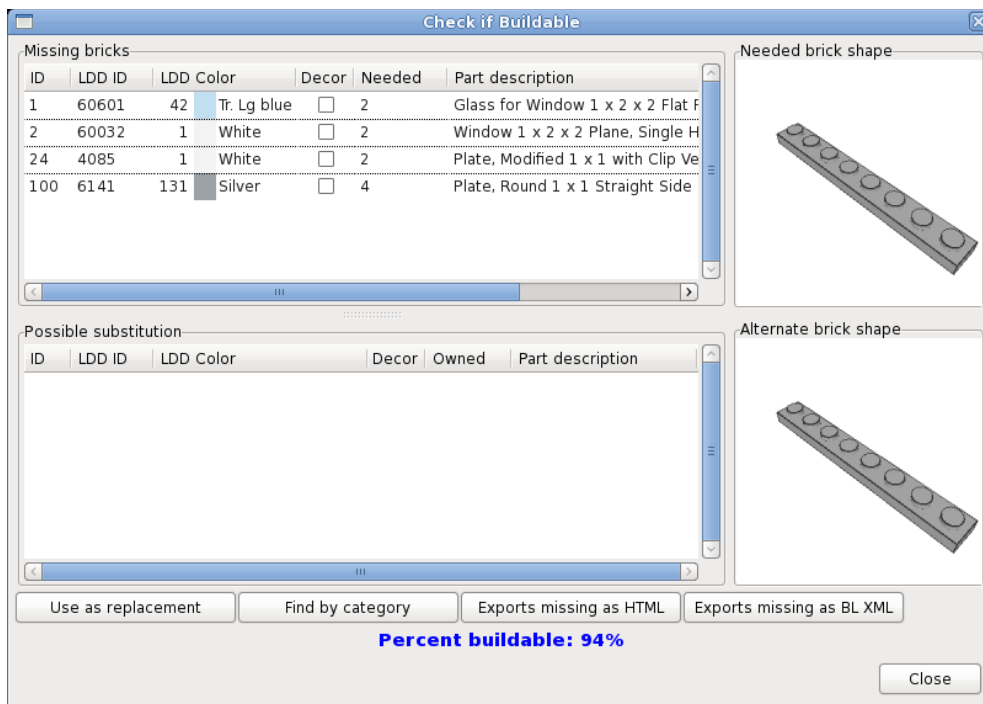


Fig. 45: Using the alternate brick

In this example, model need a plate 1x8 in white, and you have it in four other color, listed in the lower window. If you select a part in the lower window and click on “Use as replacement”, BrickUtils uses the alternate brick in the Current brick list, and recalculate missing brick and percentage. In the above figure, you can see that “plate 1x8” in not on missing list anymore, and percentage raises to 94%.

If you don't have same brick, even in other color, you can try “Find by category”.

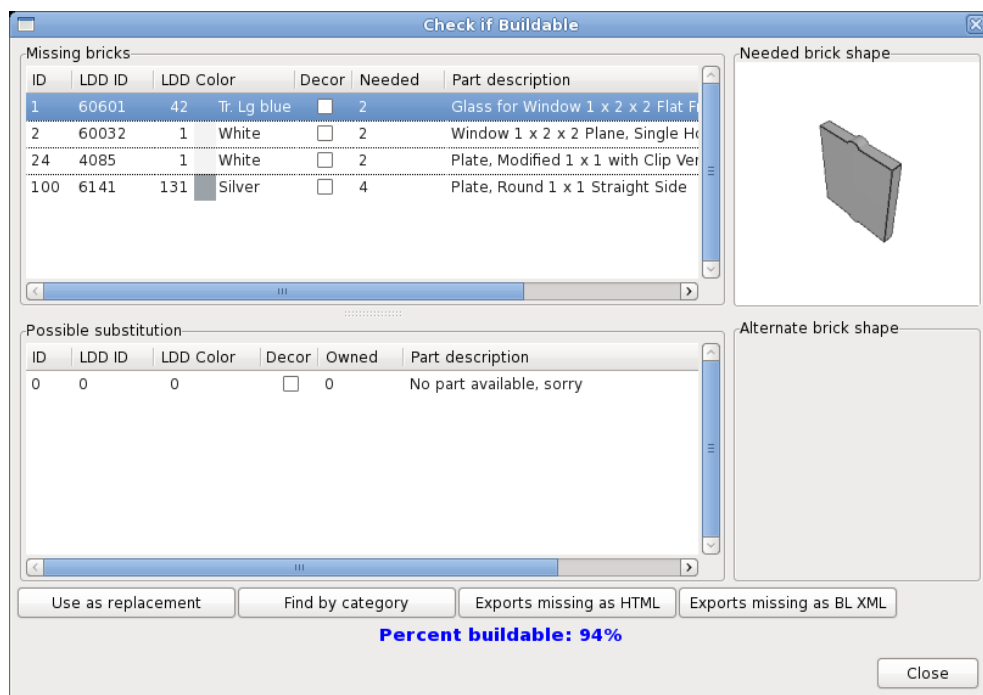


Fig. 47: We don't have such brick...

In Fig. 47 you can see an example. It is a window glass, and we don't have it, even in other color.

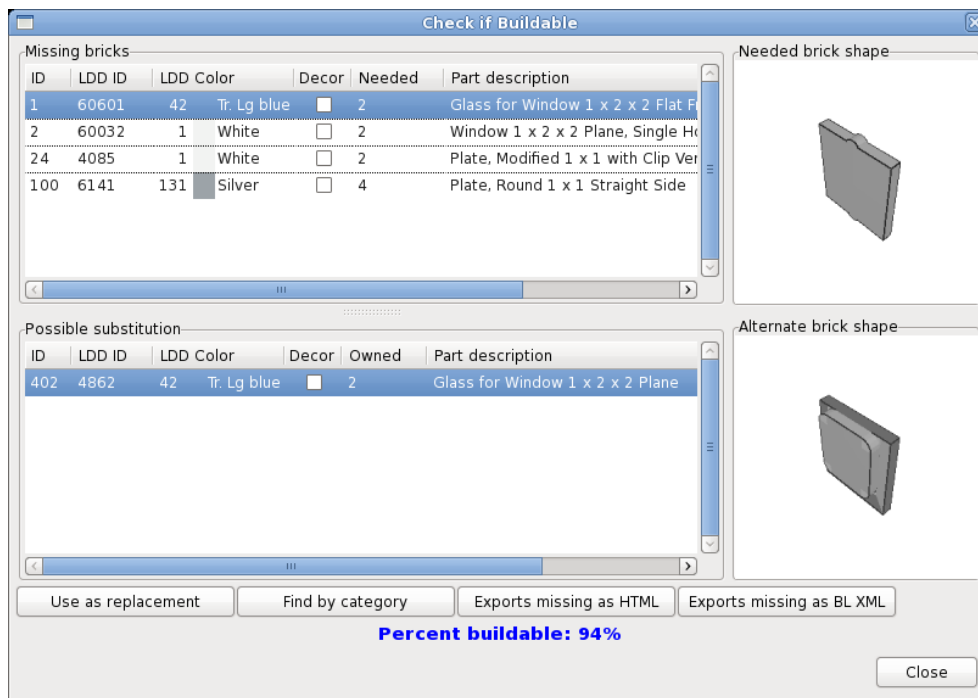


Fig. 48: A possible alternate brick

If you click on “Find by category”, after a while, you will get a list of bricks with similar shape and use, i.e. in the same “category”. In Fig. 48 you can see in the lower part that we have a glass with same size, but a different shape, so we can’t say if it can act as a substitute.

If you want a printed list of missing bricks, you can use “Export missing as HTML”, and you can export a file in HTML format (see 6.4.5).

If you want to buy missing parts on BrickLink, you can click on “Export missing as BL XML”, and you get a dialog as in 6.4.4 Exporting as a BrickLink “Wanted List Mass Upload” file, to obtain a file in XML format to upload in your BrickLink “Wanted list”.

6.4.12 Doing a “sanity check” for a brick list

If you create a project with LDD or other available CADs for LEGO® bricks and you want to build it for real, you need all bricks you used in the project.

In LDD you can use only really existing bricks in existing colors, but if you don't, you can use the “Checks for errors...” button to check if you can ever find all bricks needed for your model.

After you loaded a brick list, you can hit this button and get a dialog.

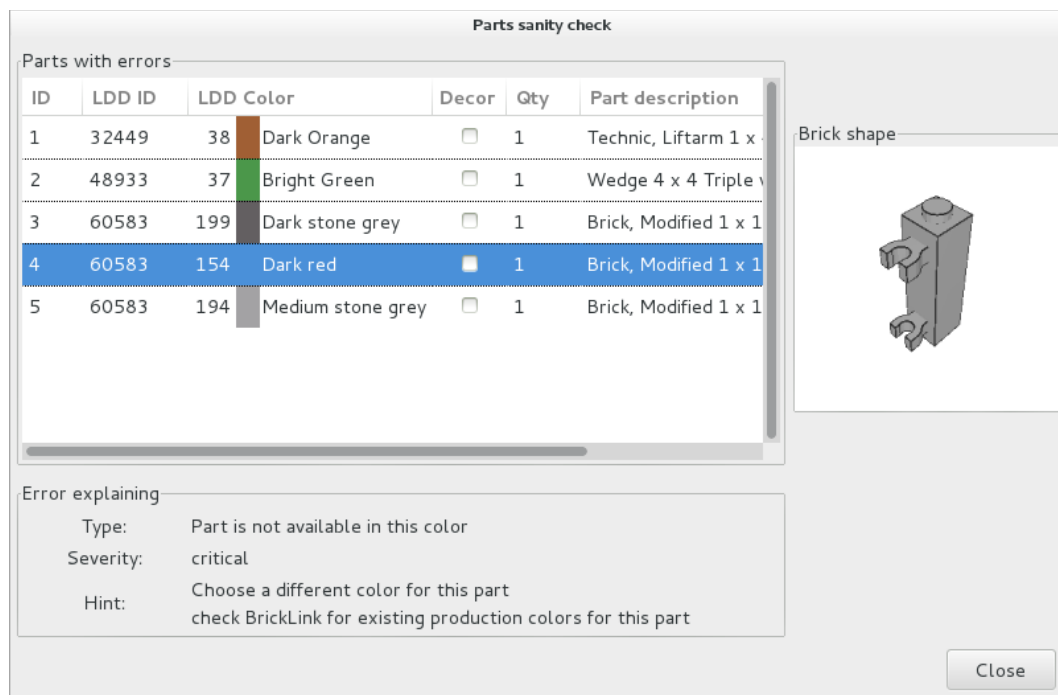


Fig. 49: List of parts you cannot ever find in these colors

In Fig. 49 you can see an example: I created a little project with LDD using five bricks in colors that was never used by any sold set, so if this was a real project I cannot build it, no matter where I look for buy parts: they never get produced by LEGO company in these colors!

So, sanity check is really important if you want to build for real your model designed with a CAD.

6.5 Working with sets

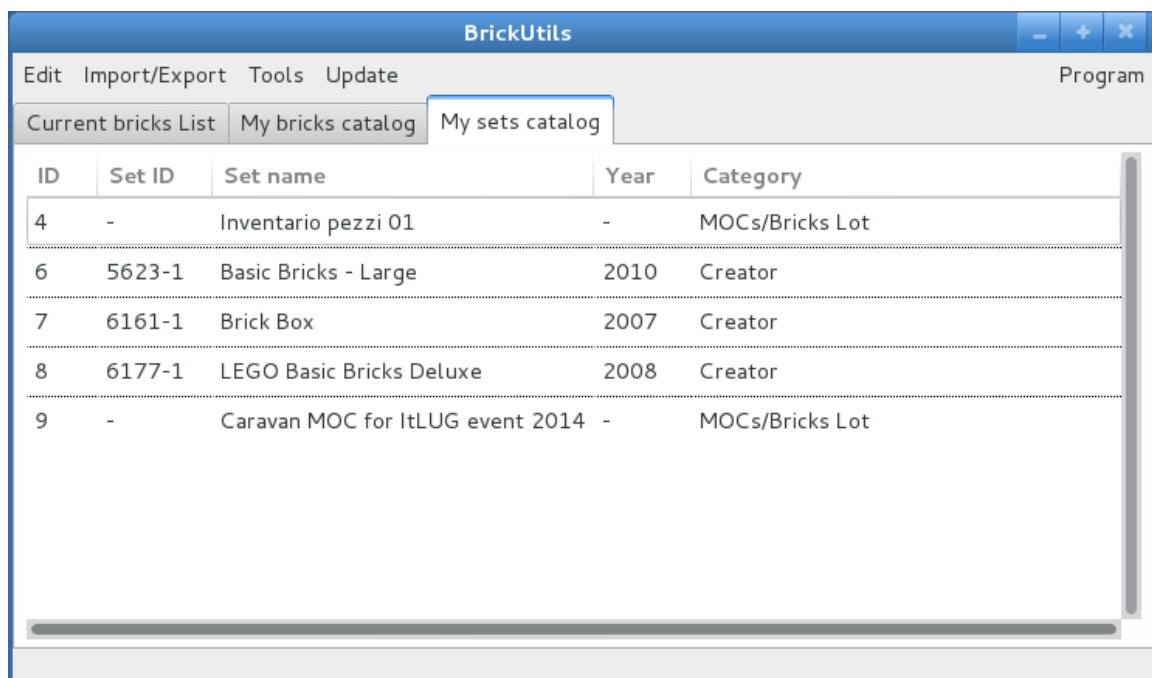


Fig. 50: Sets catalog

In “My sets catalog” you can see all your sets. Operation available are browsing the list of sets, delete a set, and export or import sets catalog in a file, as for bricks catalog.

When you want to delete a set, you can delete all bricks that set own, or leave them in main catalog. A dialog will ask what to do.

When bricks are removed, if a brick type count in catalog go to zero, the brick definition in catalog is not removed. This is because you may want to preserve your editing to name or color of a brick.

6.6 Working with catalog

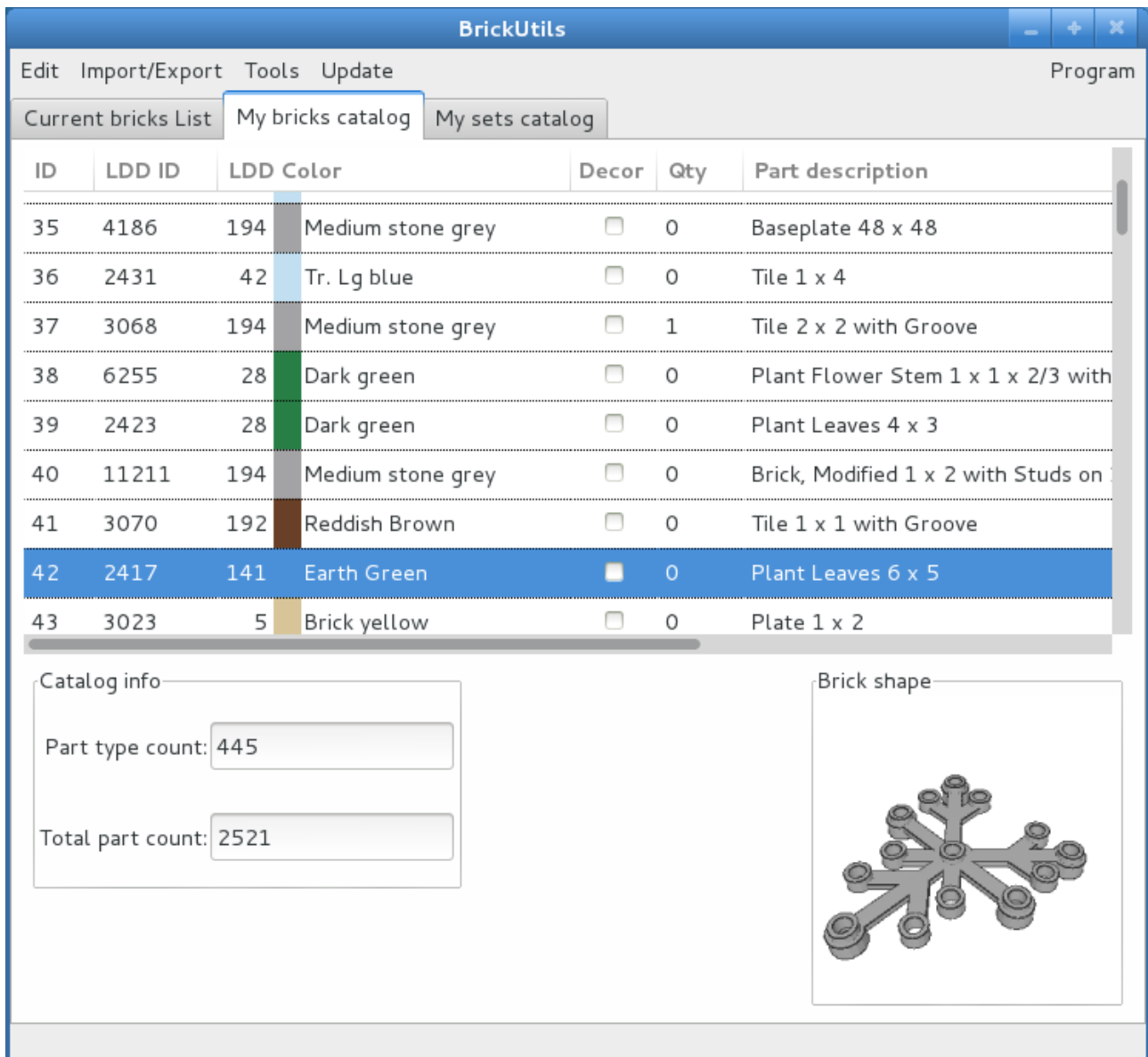


Fig. 51: Your brick Catalog

In your main catalog you can manage your bricks collection. Here you can add, edit or delete a brick definition.

6.6.1 Add a brick to catalog

You can add individual brick to your catalog. Select “Add brick” in “Edit” menu on “My bricks catalog”.

In Fig. 52, you can see the dialog. It's up to you define part ID and color. As for Current Brick List,

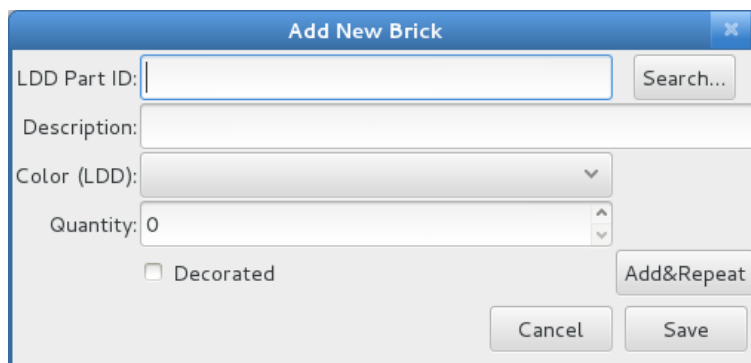
The "Add New Brick" dialog box has a blue title bar. It contains a text field for "LDD Part ID:" with a "Search..." button to its right. Below this is a "Description:" text field. Then is a "Color (LDD):" dropdown menu. Below that is a "Quantity:" text field with a value of "0" and up/down arrow buttons. At the bottom left is a checkbox labeled "Decorated". At the bottom right are three buttons: "Add&Repeat", "Cancel", and "Save".

Fig. 52: Add a brick to catalog

you can add more bricks using “Add&Repeat” button (see 6.4.6 Add part dialog).

Note that you *must* use the LDD numeric IDs.

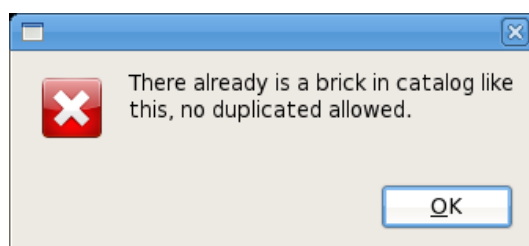


Fig. 53: A duplicated brick detected

Program checks that your brick definition is unique for part ID, color ID and decoration flag. If there is another identical brick you get an error message and your brick is discarded.

6.6.2 Edit a brick in catalog

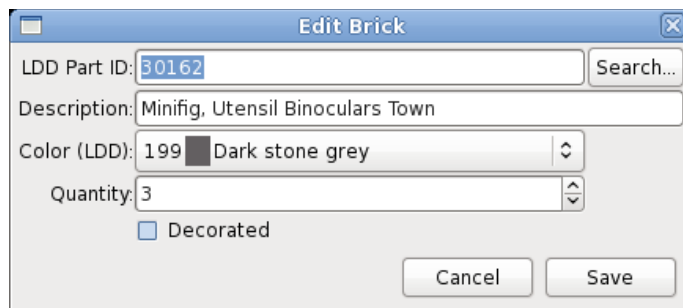
The "Edit Brick" dialog box has a blue title bar. It contains a text field for "LDD Part ID:" with the value "30162" and a "Search..." button to its right. Below this is a "Description:" text field with the value "Minifig, Utensil Binoculars Town". Then is a "Color (LDD):" dropdown menu with the value "199" and a color swatch labeled "Dark stone grey". Below that is a "Quantity:" text field with a value of "3" and up/down arrow buttons. At the bottom left is a checkbox labeled "Decorated". At the bottom right are two buttons: "Cancel" and "Save".

Fig. 54: Edit brick

You can change any brick definition in your catalog. As for adding a brick, program checks against duplicate brick.

You can change anything in your catalog definition, so double check your edits.

6.6.3 Delete a brick type from catalog

You can delete a brick type from catalog, using button “Delete brick”. If brick is used in any of sets you have in sets catalog, you will get a warning about that, as in figure below.

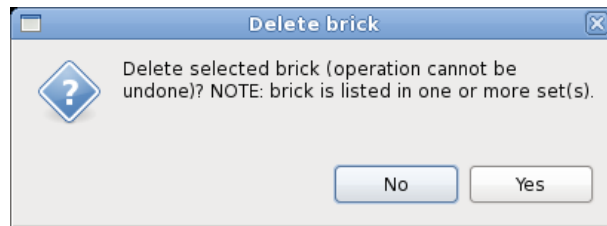


Fig. 55: Brick delete dialog

If you delete a brick definition, you will lose all data on it. So, if you changed any characteristic, you may evaluate to set quantity to zero, it will have the same effect, but you will not lose your edits.

6.6.4 Remove empty brick definitions

If you remove one or more set from database (see “6.5 Working with sets”), it happens that some brick definitions in catalog will have “0” as quantity. If you want, you can remove all those empty brick definitions in one single action, using “Remove empty bricks” button.

Please remember that if you modified some of bricks descriptions, and you remove these bricks, you will lose your edits.

7 Notes

7.1 *Things you need to know about catalog*

There are some things that you need to know about catalog.

- If you modify the brick description in catalog, it remain even if you add other bricks of same type from a set inventory. So, brick description in catalog is never overwritten.
- If you modify the quantity, you can broke the reference count between sets and bricks, i.e. if you set a quantity below the bricks that were in original sets. This is not a problem for catalog itself, but sets catalog will count a set even if you don't own any of the bricks that belongs to the set.
- No checks are made against LDD part ID, so you can enter a brick with part ID that doesn't exists in LDD.
- Color ID can be selected only from the known color list. If you need a new color ID, first you must define it in color map table (see 6.3.1).

7.2 *Brick shapes and image cache*

Starting from version 0.1.0, BrickUtils comes with a feature that shows an image with brick shape in some program functions.

This feature needs an Internet connection to work, because BrickUtils comes with no images in installation packages. Images are several megabytes of data, and you don't need ALL of it.

So BrickUtils gets images when needed and store in local cache, so if an image is in cache it doesn't need to download every time.

Images are generated from LDraw part library (<http://ldraw.org/>). The LDraw library is always in development:

- some parts are updated often
- some parts aren't fully rendered (missing details)
- some parts are not certified (wrong sizes, wrong surface orientation)
- part IDs differs from both BrickLink and LDD for some parts.

The result is that some parts are rendered really ugly, with wrong lighting or missing details, or sometimes using wrong image.

It is not a fault, and I cannot do anything to correct it but, if you want, you can contribute to LDraw parts library to improve it.