Grid Charts – Introduction

Learn in this article

- for which **purpose** Grid Charts are used,
- where **Grid Charts** can be **created** in the Workflow,
- where in the Workflow **Grid Charts** can be **managed** and
- which **Grid Charts are available** in the **Workflow**.

1. Small Introduction

In digital printing, a **Grid Chart** is understood as a "grid diagram" with which it is possible to find color values for Spot Colors. These values should visually differ least from a defined specification. In digital printing, a Grid Chart is made up of a two-dimensional grid of color patches. Each color patch differs from the others by a small change in the color value.

Thus users can utilize **Grid Charts** to relatively quickly assess the desired color value of a Spot Color which is to be used for the production run. The Spot Color is used on the printing system in conjunction with the used material.

2. Create and manage Grid Charts

Grid Charts can be created in the Workflow for a specific global Spot Color or for a Spot Color of a Print Item. Depending on the application, the Grid Chart is created either via the **Color > Color Books & Grid Charts** menu item or directly in the detail view of a Print Item for the Spot Color contained therein.

2.1. Create Grid Chart globally

The procedure for creating a Grid Chart for a system-wide Spot Color is as follows:

1. Select the **Color > Color Books & Grid Charts** menu item.
2. Select the **Grid Chart** or **Tint Value/Overprint Grid Chart** tab.

Figure 1: The tab *Grid Chart* of the menu item *Color > Color Books & Grid Charts*
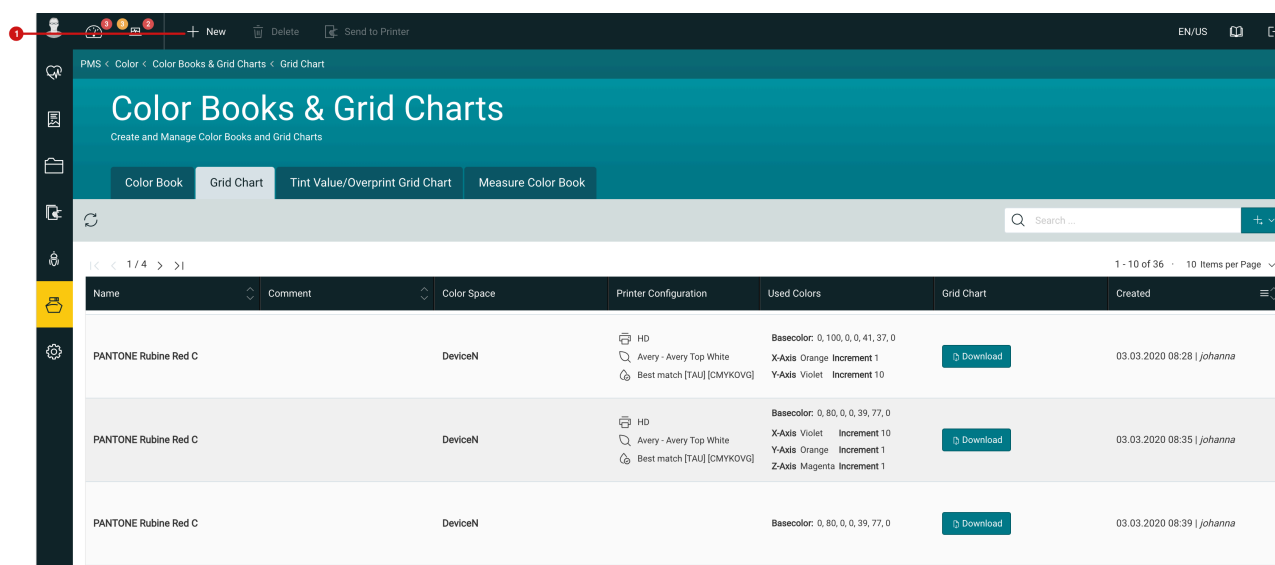
3. Select the menu item **New [1]** in the action bar, which opens the corresponding dialog for creating a **standard Grid Chart.** Alternatively, select the entry **Grid Chart of tonal values** in the menu item **New [2]** or select the entry **Grid Chart of overprinting Spot Colors** to open the dialog for creating the Grid Chart of the same name.

Figure 2: The tab *Tint Value/Overprint Grid Chart* of the menu item *Color > Color Books & Grid Charts*
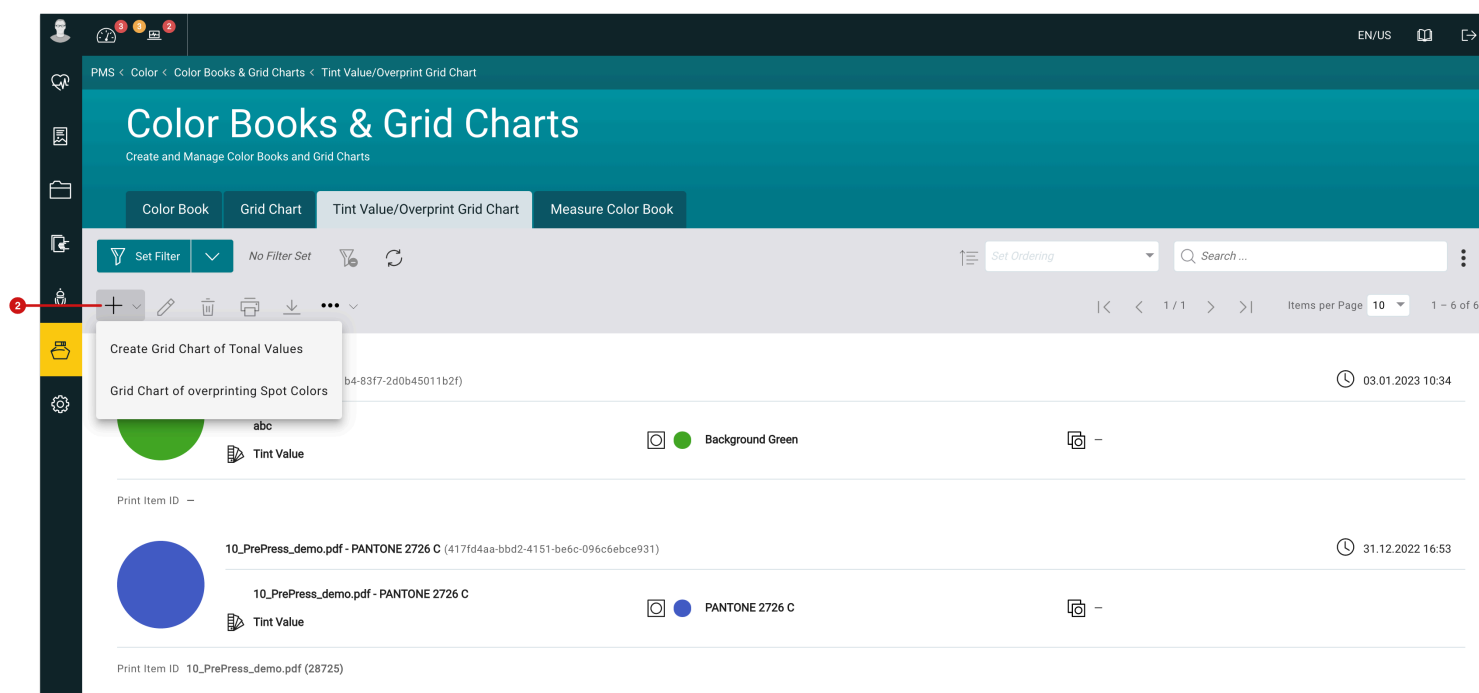
4. In both cases, select the required settings in the dialog and press either **Create** to create the Grid Chart in PDF form only. Alternatively click **Create and Send to Printer** to create the Grid Chart in PDF form first and then Send to the Printer.

> ⓘ **Why two tabs for Grid Charts?**
>
> While standard Grid Charts were already available since the first delivery of the Workflow, the two new Grid Chart types - *Grid Chart of Tone Values* and *Grid Chart of overprinting Spot Colors* - were only introduced with version 1.14.0. Due to a more modern approach when implementing the new grid charts, the area for creating and managing these Grid Charts had to be done in a separate tab.
>
> When the refactoring for the standard Grid Charts is finished, it will be possible to manage all Grid Charts in one list in a future version.

2.2. Create Grid Chart for a Spot Color of a Print Item

The procedure for creating a Grid Chart for a Spot Color of a Print Item is as follows.

1. Open a Print Item in Articles, an Order or a Production Job in the Print Item detail view.
2. In the **Spot Colors** settings area, select the **Spot Color [3]** for which you want to create a Grid Chart.
3. Then select the Grid Chart you want to create from the **Grid Charts [4]** drop-down menu.

Figure 3: The detail view of an Article with selected Spot Color
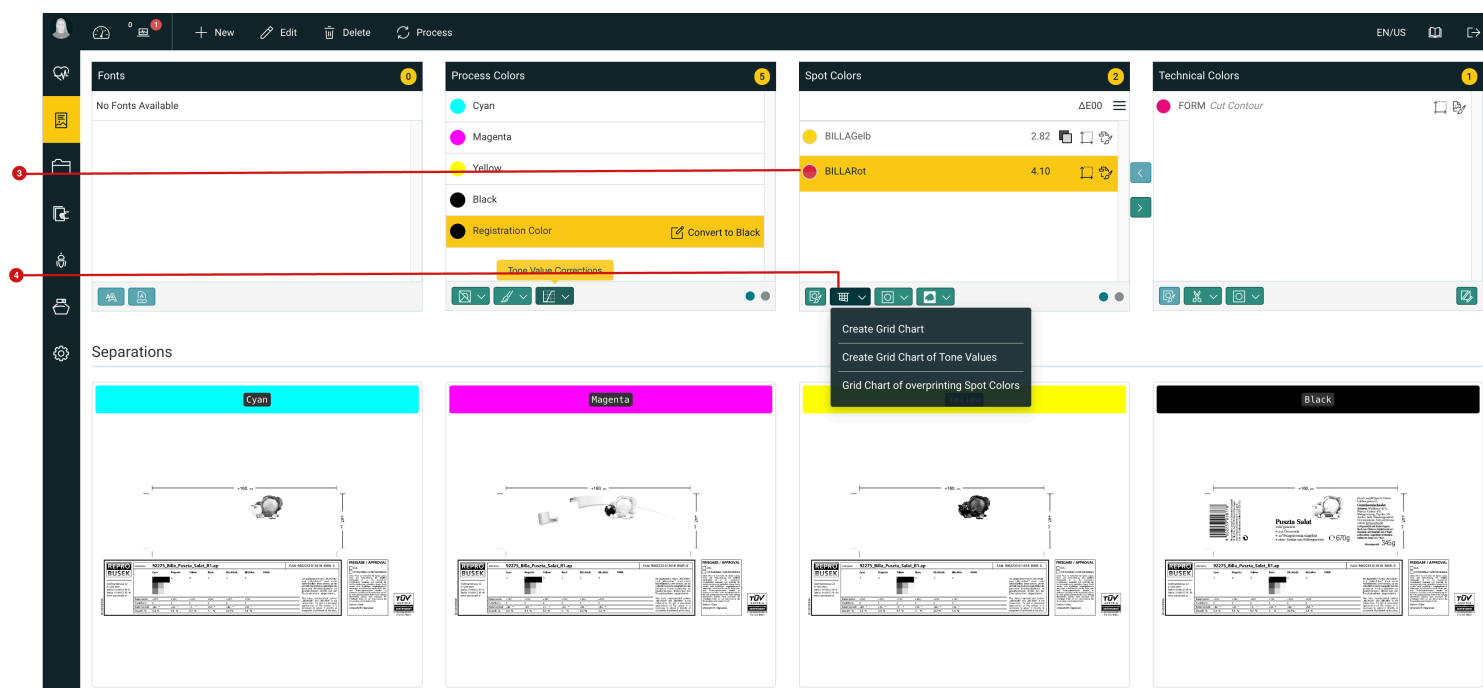
4. Select the required settings in the dialog and press either **Create** to create the Grid Chart in PDF form. Alternatively select **Create and Send to Printer** to create the Grid Chart in PDF form first and then send it to the printer.

2.3. Manage Grid Charts

The generated Grid Charts are available for further use in the **Grid Chart** or **Tint/Overprint Grid Chart** tabs. This is regardless of whether you have created a Grid Chart in the **Color > Color Books & Grid Charts** menu item or in the Print Item detail view,.
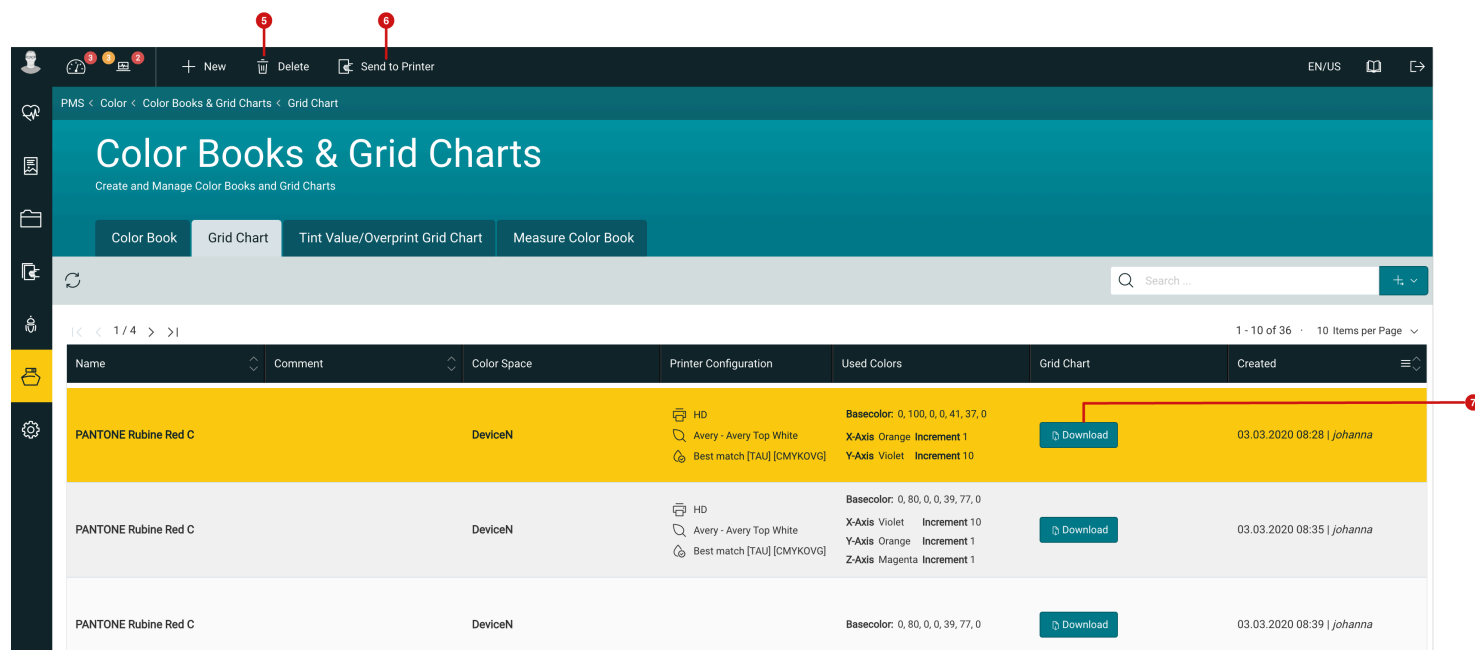
2.3.1. Standard Grid Charts - Send to Printer, download or delete

Standard Grid Charts are managed in the **Grid Chart** tab of the **Color > Color Books & Grid Charts** menu item. There, once you have selected an entry in the list, the following tasks can be performed:

*   **Delete Grid Chart [5]** - Pressing Delete in the action bar will irrevocably delete the selected Grid Chart from the Workflow. After pressing the menu item, you will be asked once again to confirm the operation.
*   **Send to Printer [6]** - Pressing Send to Printer in the action bar will send the selected Grid Chart to the Printer. In the Send to Printer dialog, after pressing the menu item, you can merely set the substrate specification, the target directory and the grid - how often the Grid Chart should be arranged in rows and columns on the printed sheet.

- **Download [7]** - By pressing <u>Download</u> in the action bar, the selected Grid Chart is downloaded to the local computer as a PDF.

Figure 4: The *Grid Chart tab* of the menu item *Color > Color Books & Grid Charts*


2.3.2. Tint/Overprint Grid Chart - Send to Printer, Download or Delete

The management of **Tint** or **Overprint Grid Charts** is done in the **Tint/Overprint Grid Chart** tab of the **Color > Color Books & Grid Charts** menu item. There, once you have selected an entry in the list, the following tasks can be performed:

1. **Delete Grid Chart [9] [14]** - By pressing <u>Delete</u> in the action bar of the list or action bar of the selected list entry, the selected Grid Chart will be irrevocably deleted from the Workflow. After pressing the menu item, you will be asked once again to confirm the operation.
2. **Send to Printer [10] [13]** - By pressing <u>Send to Printer</u> in the action bar of the list or action bar of the selected list entry, the selected Grid Chart is sent to the Printer. After pressing the menu item, the output configuration and all layout parameters can still be changed in the Send to Printer dialog.
3. **Download [11] [12]** - By pressing <u>Download</u> in the action bar of the list or action bar of the selected list entry, the selected Grid Chart will be downloaded as PDF to the local computer.
4. **Edit [8] [15]** - By pressing <u>Edit</u> in the action bar of the list or action bar of the selected list entry, the same parameters can be changed in this dialog as in the Send to Printer dialog.

Figure 5: The tab *Tint/Overprint Grid Chart* of the menu item *Color > Color Books & Grid Charts*
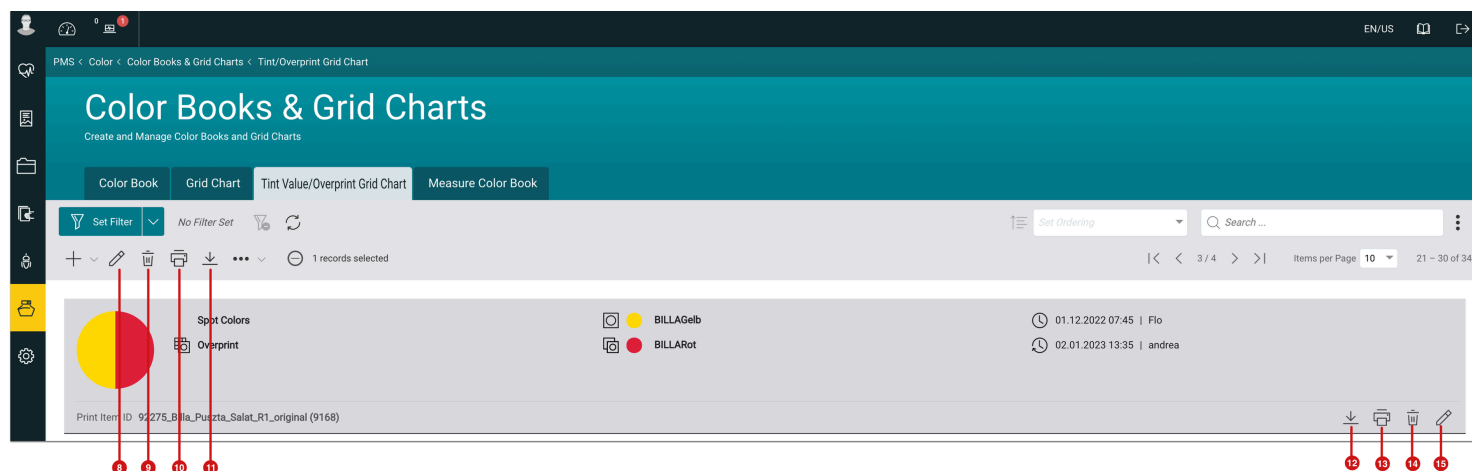
3. Available Grid Charts

Grid Charts are available in three different versions. Below is an overview description of the different Grid Chart types as they will appear in print, along with notes on the purpose for which they are to be used.

3.1. Standard Grid Chart

The **Standard Grid Chart** provides a corresponding number of color fields with different color values depending on the selected grid, with the center color field **[16]** representing the output color. The fields to the left and right of the initial color are decreased or increased by the set value for the color of the X axis - yellow in the example. The fields above and below the output color are decreased or increased by the set value for the Y-axis color - cyan in the example.

On the right side of the Grid Chart, corresponding information is available, so that in internal communication the underlying **base color with color values [18]** is unmistakably clear. Furthermore, it is indicated to which **Print Item [19]** the Grid Chart belongs and on the basis of which **Output Configuration [17]** the colors for the selected substrate look as displayed.

If the Grid Chart also contains a third color value, an additional page is created for the Grid Chart in the output for each color value of the third color.

The **purpose** of choosing the **Standard Grid Chart** is to find the visually closest possible color value (target value) on the substrat for the selected printing system. Thereby, it is possible to get as close as possible to the reference (target value). The color values (target value) from the X, Y and Z axes for the matching color patch must then be transferred for the Print Item in the Workflow.

Figure 6: The *Standard Grid Chart* for the chosen Spot Color
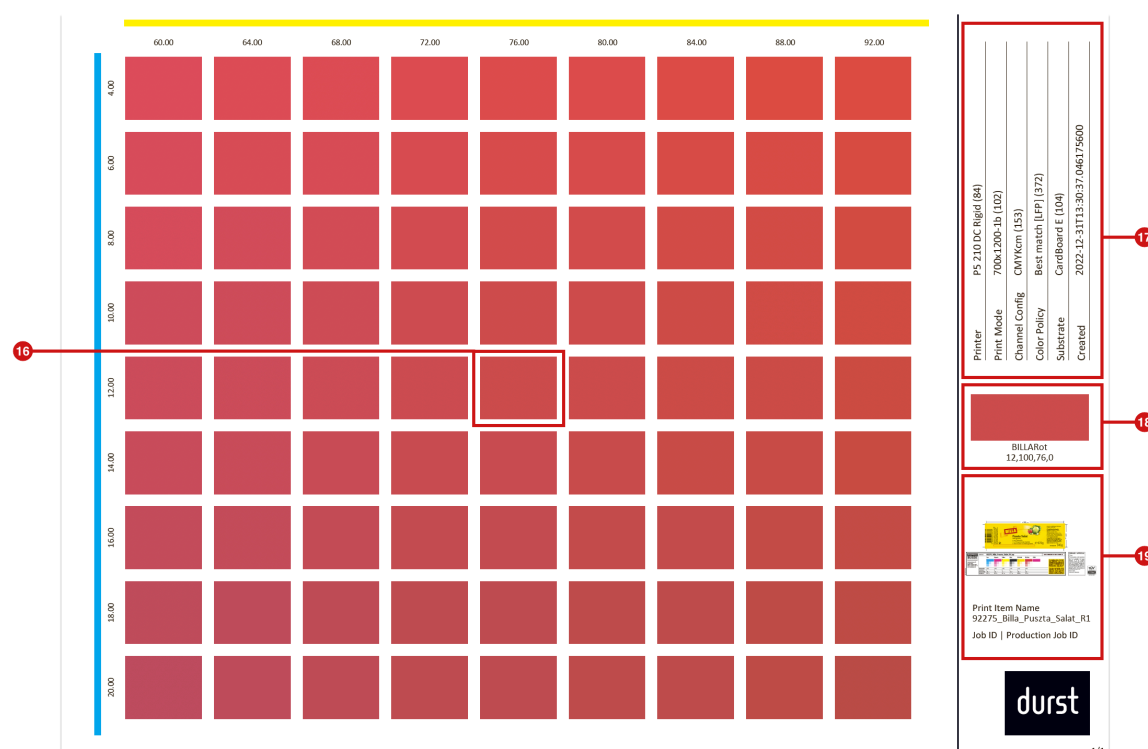
3.2. Grid Chart of Tone Values

The **Grid Chart of Tone Values** consists of 100 color patches with graduated tone values from 100% to 1% as well as a gradient from 100% to 1% for the selected Spot Color.
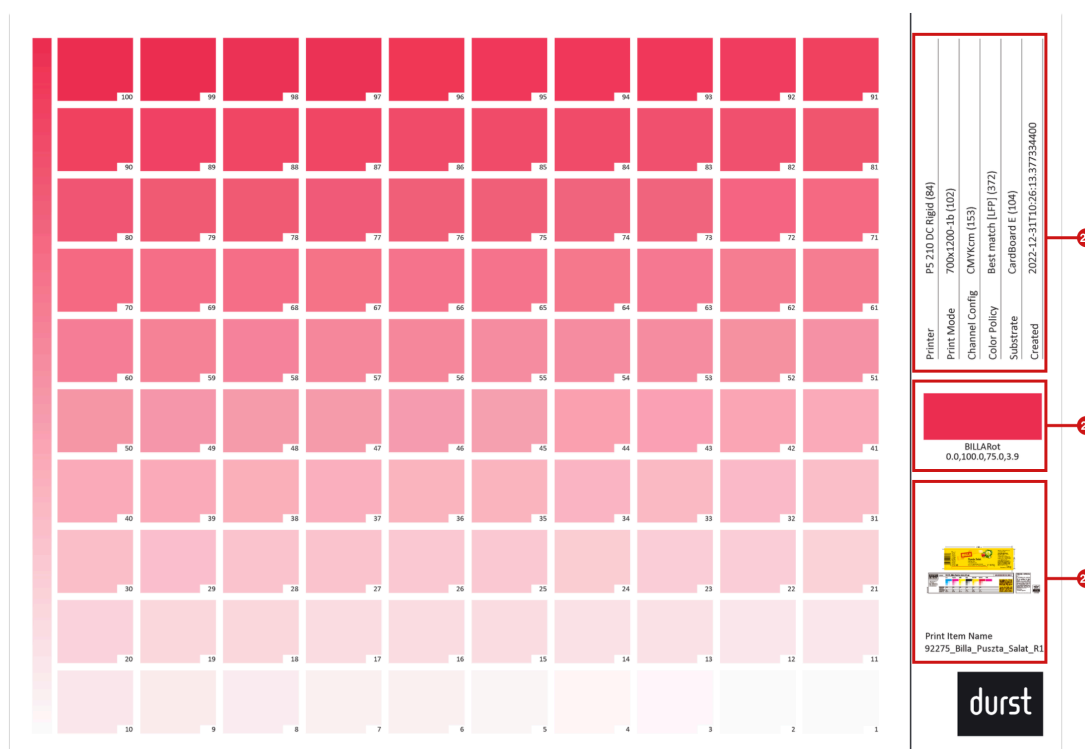
On the right side of the Grid Chart, corresponding information is available for this Grid Chart so that the underlying **base color with color values [21]** is unmistakably clear in internal communication. Furthermore, it is determined to which **Print Item [22]** the Grid Chart belongs and on the basis of which **Output Configuration [20]** the colors for the selected substrate look as displayed.

There are many **purposes** for a **Grid Chart of Tone Values**:

- If you have found a suitable target value with the standard Grid Chart, reducing the tone value for the Spot Color can lead to an even better visual match.
- Create a Grid Chart with tone values for the Spot Color "White" to check with which tone value the minimum permeability of the color can be achieved. You can then apply this tone value to the Print Items using a Fixup and thereby in some cases save a lot of costs through ink reduction.

- Create a Grid Chart with tone values for the Spot Color "Varnish" to check which tone value can be used to achieve the best "gloss effect" on the substrate. You can then transfer this tone value to the Print Items using a Fixup and thus consistently achieve the desired "gloss effect" for the series of Print Items in Print.

Figure 7: The *Grid Chart of Tone Values* for the selected Spot Color

3.3. Grid Chart of overprinting Spot Colors

The **Grid Chart of overprinting Spot Colors** consists of 100 color patches, which consist of two overprinting Spot Colors. The selected **base Spot Color** in the selected tone value is applied to all 100 color patches. The **overprinting Spot Color** is overprinted, as in the Grid Chart of Tone Values, with graduated tone values from 100% to 1%.

On the right side of the Grid Chart, corresponding information is available for this Grid Chart, so that in internal communication it is quite clear what the underlying base Spot Color and overprinting Spot Color with color values [24] is. Furthermore, it is displayed to which Print Item [25] the Grid Chart belongs and on the basis of which **Output Configuration** [23] the colors for the selected substrate look as displayed.

There are many **purposes** for a **Grid Chart of overprinting Spot Colors**:

- Visually assess the appearance of two overprinting Spot Colors in different tone values. These color constructs are often used in practice to achieve special effects, especially for the designs of folded boxes. The overprinting behavior of two Spot Colors is very different due to the different inks used in conventional and digital printing.

- Add the overprinting Spot Color "varnish" to a base Spot Color to check which tone value achieves the best "glossy effect" for the base Spot Color. You can then transfer this tone value to the Print Items using a Fixup. Thereby, it is possible to achieve the desired "glossy effect" for the Print Item series throughout the print.
- Add the overprinting Spot Color "White" to a base Spot Color to check with which tone value of "White" the base Spot Color can still ensure acceptable coverage and color intensity in printing. You can then transfer this tone value to the Print Items using a Fixup. Thereby, it is possible to achieve the desired coverage for the base Spot Color throughout the print.

Figure 8: The *Grid Chart of overprinting Spot Colors* for the selected Spot Colors
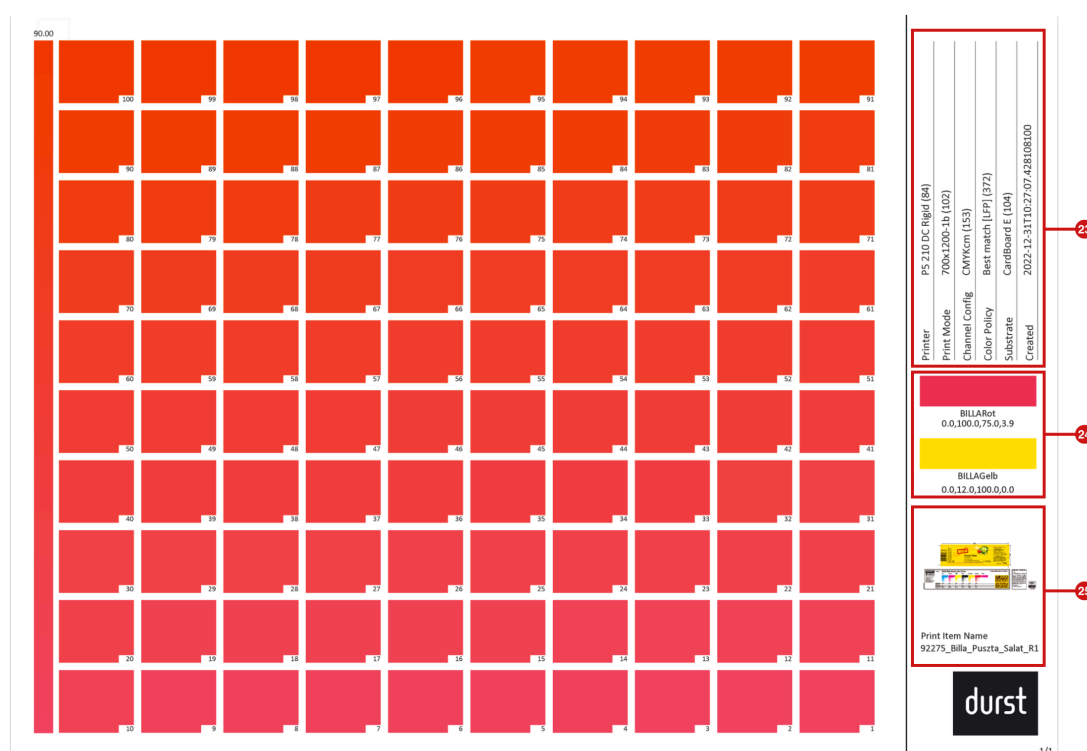
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