



Child Resistant Closure Design

Summary

A leading company, in collaboration with Desall, is looking for an innovative cap for the personal care, cosmetics, and food sectors that integrates a child-resistant safety system. The closure must prevent opening by children while ensuring easy and intuitive use for adults.

Official page: <https://bit.ly/Child-Resistant-Closure>

Company description

This project is sponsored by a leading company which has currently chosen to keep its brand anonymous.

What we are looking for

We are looking for innovative concepts for a new **single-component cap** intended for the **personal care, cosmetics, and food sectors**. The cap should stand out from current market solutions in terms of **usability, user experience, and functionality**. It will be designed to prevent accidental opening by children while ensuring easy and intuitive use for adults.

The goal is to develop an innovative closure that meets market needs, reduces plastic usage, and simplifies existing solutions..

Types of Child-Resistant Closures:

- **Push & Turn:** An opening mechanism that requires simultaneous downward pressure and rotation. This is a standardized solution used widely for pharmaceutical and chemical products.
- **Squeeze & Turn:** Requires lateral compression before the cap can be turned. Commonly used for bottles containing household chemicals.
- **Push Button Closures:** Involves pressing a hidden button or a specific point on the cap. Offers good safety, but may be challenging for users with limited dexterity.
- **Sliding Mechanism Closures:** Provides protection through combined movements, such as sliding and then rotating or opening.

Common Market Concepts and Their Pros and Cons

Push & Turn

Pros: Effective and well-established.

Cons: Requires strength and coordination; uses a significant amount of plastic.

Squeeze & Turn

Pros: Relatively easy to manufacture.

Cons: Can be difficult to use for elderly individuals and people with disabilities.

Push Button Closures

Pros: High level of safety; compact design.

Cons: More complex mechanism; may pose difficulty for adults; higher production costs.

Sliding Mechanism Closures

Pros: Increased safety for children.

Cons: Bulkier design; may be difficult for adults to use.

To explore some of the solutions already available on the market, please refer to the *Material files* available for download on the contest page.

Guidelines

To ensure the proper development of your projects, carefully consider the following guidelines:

Project type

You are invited to propose a concept for a child resistant cap, reclosable and preferably single-component, that stands out for its usability, user experience, and functionality. The solution should engage and attract consumers through a **multisensory approach** or, alternatively, through **innovative features** that enhance the overall user experience.

In addition, the cap must provide the user with feedback to indicate whether it has been properly closed. Today, for example, many CRC (Child-Resistant Closures) caps emit a distinctive sound that signals the correct sealing of the product.

To develop an effective and innovative child resistant closure, the project should follow these key principles:

- **Compatibility:** The cap should preferably be compatible with bottles featuring a threaded neck.
- **Plastic reduction:** Minimize non-essential components and optimize the design without compromising functionality.
- **Simplified design:** Avoid complex structures that increase costs and make the product harder to use.
- **Ease of recycling:** Use a single component or easily separable parts to improve sustainability.
- **Ease of Use and Accessibility:** Ergonomics should be considered for individuals with motor difficulties. Visual and tactile indicators should be introduced to facilitate correct use. An audible “click” sound during opening and closing can provide confirmation of proper operation.
- **Cost optimization:** Incorporate efficient manufacturing solutions and reduce the need for secondary packaging.
- **Customization:** Possibility to add a logo or the customer’s brand name.
- **Airtight seal:** The cap must ensure an airtight closure.

Style and aesthetic

You are invited to design a cap with strong aesthetic value and attention to detail, capable of establishing a new stylistic language that sets it apart from current market offerings. However, **the cap’s design should not feature overly distinctive or brand-specific elements**, as it needs to adapt well to containers of various shapes and styles, depending on the brand using the specific bottle.

Colors

You are free to propose new color solutions, either through monochromatic or multicolored caps, with the option to use one or more materials.

Production technologies and materials

The cap must be manufactured using industrial production technologies, specifically injection molding. The most suitable materials for this context are polypropylene and polyethylene, with the option to create either mono-material or bi-material caps using the same molding cycle. At your discretion, you may also propose bi-injected solutions using thermoplastic materials or soft components, provided they offer a significant advantage in terms of user experience or functionality. Ideally, the new cap should be single-component.

Surface finishes

If included in your design concept, you may suggest the use of surface finishes created through mold processing (post-processing treatments are not allowed).

Dimensions

The cap must be compatible with bottles of various sizes, with standard neck diameters of 24, 28, and 38 mm. For the purposes of the contest, you are required to present at least the solution for the 24 mm neck. The liquid exit hole can have an indicative diameter ranging from 2,5 to 7 mm.

Weight

The cap must be as lightweight as possible, both to meet transportability requirements and to reduce environmental impact, through the lower use of plastic materials.

Values to Communicate

The cap you propose should be perceived as a unique, innovative product, ideally developed with a focus on environmental sustainability. Usability and user experience are of utmost importance, ensuring the product is considered reliable in every aspect, including during transport.

Target user

The cap will be used across a wide range of products in the food, cosmetics, and personal care sectors, intended for both mass distribution and specialized retailers. Therefore, consider a broad and diverse audience, aiming to offer a solution that is intuitive and suitable for all types of consumers.

Submission materials

Provide detailed descriptions and up to 5 images to effectively present your projects. Images should be in 4:3 format, with .jpg, .gif or .png file formats acceptable. The colour mode should be RGB and the maximum size of a single file should be 1 MB.

You're invited to use the designated field on the submission page to attach a .zip file containing 3D files and high-resolution versions of the project images. The maximum file size for the .zip archive is 100MB.

Judging criteria

When evaluating the submissions, the Sponsor will consider the following criteria:

Degree of innovation 5/5

Aesthetic quality 5/5

Functionality/Usability 5/5

Eco-friendliness 4/5

Economic sustainability 4/5

Language

Since we are an international Community, all texts provided with your uploads (abstract, description, tags, etc.) should be written in English.

Contest Timeline

Upload phase:	24 June 2025 – 27 November 2025 (1.59 PM UTC)
Concept review:	24 July 2025 (1.59 PM UTC)
Client vote:	from 27 November 2025
Winner announcement:	approximately by the end of February 2025

Concept review (optional)

Participants have the opportunity to request an optional review of their project by the Desall team by the date indicated above. To do so, they must 1) save their project as a draft from the upload page and 2) send a request to the Desall team via email at contest@desall.com or through the contact form. **This review is entirely optional** and only provides an opportunity for participants to receive feedback but does not constitute a necessary condition for participation or provide any advantage in the final evaluation by the Sponsor.

Eligibility and submission

Participation is free and open to creative talents of any nationality aged 18 or older. Participants may submit one or more projects, but only projects published on the website www.desall.com from the upload page dedicated to the contest will be accepted.

Award

1°: €5000

The selection of the winner by the Sponsor will be the result of an unquestionable evaluation and it will take into account originality, feasibility and consistency of submitted projects with the presented brief.

Extra Award (option right fee)

€2000

Throughout the duration of the option right, the Sponsor offers an additional opportunity to all participants by setting the compensation of €2000 for the purchase of the licence for the economic exploitation of projects not recognized as winning proposals.

For more information, log in and read the [Contest Agreement](#) from the Upload page. For questions about the brief, use the “Have a question” button or write to contest@desall.com.

Submission Guidelines

Project images: the first image attached from the upload page will also be used as the preview of the project in the gallery. In order to better present your project and draw the attention of the sponsor, we suggest you to choose a content that provides an overall idea of the whole project in one single image, briefly including all the contents that will be further presented in the following images.

We also suggest you to use all five image slots available from the upload page of the contest and - where possible - to present several views of the project giving also an indication of the main dimensions of the product.

For product design contests in particular, we suggest you to include at least one image with your project on neutral background and no writings.

For the rendering and presentation of your project, the use of copyrighted images, even if slightly edited, is prohibited.

In case of using materials owned by third parties (ex. stock images, stock videos, texts, etc.), make sure you are granted all the licenses needed for participating in the contest, as further specified in the Contest Agreement.

In case of submitting multiple projects or concepts, you have to repeat the upload procedure for each project: do not submit multiple projects with a single submission.

You are required to upload at least 1 image; image ratio: preferably 4:3; allowed file formats: .jpg, .gif or .png; colour mode: RGB; maximum file size: 1MB.

Descriptions: we suggest you to use the appropriate fields, "Abstract" and "Description", to include all textual information about your project. We discourage you to include textual description inside your images, as they might result difficult to read (at all events, we suggest you to include at least one image - if possible - with your project on neutral background and no writing). In the "Abstract" field you have maximum 500 characters to include a short summary of your project while in the "Description" field you can include all the remaining information.

Additional material: in addition to the project images, you are invited to attach further materials in a .ZIP archive (NO other file extensions are allowed, such as .RAR) through the "Archive File" field on the upload page. Among the various materials, you may include CAD files, PDF with further descriptions on the project, photos of any models or prototypes, high-resolution images of the project images and 3D files (preferably in .stp or .igs format - you may also include a PDF 3D file for a rapid visualisation). The maximum size of the .ZIP archive is 100MB. You may also attach a video presenting your project through the "Video File" field from the upload page, including it inside a .ZIP archive with a maximum size of 50MB.

Concept revision: revision of your project by the Desall team. In order to request a revision, upload your project including the description and save it as draft (SAVE DRAFT) from the upload page and send your request to the Desall Team via e-mail or through the contact form. The revision is NOT mandatory: it serves only as a further opportunity for the participants but does not constitute a condition for participation, nor does it constitute any advantage in the final evaluation.

Hidden option: only in case of public gallery contests, you can submit your project with "hidden" design privacy option, provided that you submit your project within the first half of the upload phase. By doing so, your project will remain hidden for all other users until the opening of the Community Vote, if any. At all events, your project will always be visible for the Sponsor regardless of the submission date. This option is automatically disabled once the first half of the upload phase has expired: you can find the deadline for activating this option in the Optional deadlines paragraph inside the brief.

You can find further instructions on how to create your account, how to submit your project and other information in the [Tutorials](#) and in the [FAQ](#) sections.