Fitments for Flexible Packaging

Scholle IPN | Simply Flexible.
Our Mission
The Scholle IPN Difference

Scholle IPN’s mission is simple; to help the world’s leading brands deliver their products in the best way possible using a diverse range of total flexible packaging solutions. We are tenacious innovators with a long history of applying technology in film, fitments, and equipment to solve difficult packaging problems.

Our products are manufactured everywhere so we can serve anywhere with a flexible, “can-do” attitude.

We believe we are a critical partner to creating and maintaining a sustainable future and do things differently to meet these important goals.

Scholle IPN is many things. But above all, we are Simply Flexible.
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Film. Fitment. Equipment.

A Total Packaging Solution

Our mission is simple; to help the world’s leading brands deliver their products in the best way possible. We do this by combining films, fitments, and equipment to help you go-to-market simply and quickly with a total flexible packaging solution tailored to your specific needs.

Film
- We extrude, laminate, and print flexible, barrier films designed to meet your rigorous product specifications.
- We have one-to nine-layer films, as well as recyclable, mono-material structures.

Fitment
- We injection mold and assemble fitments designed to provide an ergonomic interaction with your product for all ages and abilities.
- Our taps, connectors, caps, and spouts are designed to suit your needs – whether that’s on a retail shelf, a fast-paced restaurant operation, or industrial use.

Equipment
- We design and manufacture equipment for both pre-made and form-fill-seal style bag-in-box and pouch filling. Whether you operate a startup, or a full-scale, automated operation, we have a solution for you.
- Our filling equipment offers great flexibility in process compatibility from ambient, to ultra-clean, to aseptic.
Why Choose Flexible Packaging?

Effective Use of Resources

- **Maximized performance** due to unrivalled quality design and engineering.
- **Less raw material** and natural resources used during production.
- **Less energy** required during production and transportation.
- **Less transportation** required with more efficient logistics.
- **Less product waste** with excellent shelf-life capabilities to keep product fresher, longer.
- **Less package waste** with optimized product-to-pack ratio and recyclable options.
The Brands We Serve
Our Approach to Fitments
Injection Molding and Assembly

Scholle IPN injection molds and assembles fitments designed to provide an ergonomic interaction with your product for all ages and abilities.

- Our fitments are designed with a focus on optimized functionality and fit for sealing to various types of film.
- Our taps, connectors, and caps are designed to suit your needs—whether that’s on a retail shelf, a fast-paced restaurant operation, or industrial use.

Our vertical integration and global footprint ensures competitive pricing and supply contingencies. Our Industry 4.0 approach to manufacturing uses data, automation, and robotization. Together with clean room manufacturing and in-line inspection systems, we maintain high quality from design to production.

Caps and Taps:
Ergonomic, easy-to-use solutions designed for people of all ages and abilities.

Connection Systems:
Facilitate safe, precise dosing and mixing of liquid products from dispensers.

Environmentally-Conscious:
Designs engineered to be lightweight and with the Earth’s limited resources in mind.
Industry-Leading Injection Molding

We strive to be the best total flexible packaging solutions supplier, from development to production to service – and that includes our fitments. Our injection molding presses are engineered to provide you with an optimal fitment solution. From pilot molds to test, new, custom designs to full production, we’re here to support you.

Our fitments are manufactured using:

- Clean room manufacturing to meet stringent food compliance standards.
- State-of-the-art hybrid and electric Husky molds to reduce energy consumption.
- Automated assembly machines to increase speed and efficiency.
- In-line inspection systems for closed-loop quality control throughout the manufacturing process.
- Industry 4.0 automations to reduce direct human interactions with the products.

We’re equipped to take your fitment concepts from idea to execution. Our fitments engineers work with you to take-make your optimal fitment solution. We work with our injection molding experts to design, produce, and test fitment molds starting with rapid prototyping and single-cavity pilot molds all the way to high-cavitation molds for commercial production.

Clean room manufacturing of Versi™. Global injection molding capabilities from pilot-sized presses to high-cavity production. Design phase of injection mold press. We injection mold each part of our fitments.
Production Capabilities

We injection mold and assemble billions of fitments every year. Our clean room fitment manufacturing environments are built for quality and product safety.

Scale and Precision:
- Molding capabilities from small trial presses to high-cavitation cells to fit your production needs.
- Leading-edge polymer use to maximize quality and recyclability.
- Fitment assembly capabilities feature “pop-on” and tethered cap innovations for environmental efficiencies.
- “No-touch,” robotic production lines with automated in-line quality inspection systems ensure the fitments are manufactured with highest reproducibility.

Our taps, connectors, caps are designed to suit your needs – whether that’s on a retail shelf, a fast-paced restaurant operation, or industrial use. And in all we do to design and manufacture fitments, the environment is a priority with solutions that are engineered to empower your own journey in the circular economy.

Ergonomics and Environment:
- Taps built to extend opened shelf life.
- Fitments with automatic shut-off to eliminate chance of spills and waste.
- Single-piece fitments to eliminate loose plastic in the environment.
- Lightweight fitments to maximize functionality with minimal source material use.
Innovative Design for the Circular Future

Our products and processes are built to realize a significant reduction in the use of fossil materials and related CO₂ footprint while providing a positive consumer experience. To that end, we strive to engineer products that meet one or more of the below tenets to ensure we are all moving forward in our sustainability journey.

Reduce

We take a tenacious approach to removing waste and excessive source material in our fitments. One example is our patented approach that eliminates screw threads. Doing more with less is core to who we are.

CleanSeal™

Leading-edge sealing technology using induction which enables the use of recyclable PP and PE film structures. Faster cycle times, lower energy requirements, and compact equipment footprint aid in reducing reliance on natural resources.

Tethered Caps

Single-piece fitment designs eliminate loose components that might not be placed into recycling streams and improve end-user ergonomics.

Recyclability

Whenever possible, our fitment designs use simple, mono-material construction to aid in recyclability of finished packaging.

You’ll see this icon throughout this booklet. This means that the product you are looking at was engineered for the circular economy, and meets one or more of the metrics listed above.
Scholle IPN has developed a line of tethered caps that comply with European regulations pushing towards single-piece fitment designs. Our tethered cap solutions eliminate loose components that might not be placed into the recycling stream, while offering child-safe designs and improved ergonomics. With these easy-to-reseal fitment solutions, spills and other opportunities to waste products are less likely.

**Snap-On**
- Patented design offers a reduction in energy required for manufacturing, assembly, and sealing
- Offers easy, twist-off use for consumers of all ages
- Toynorm compliant
- Dual-purpose tamper evidence also offers tether for cap

**Flip-Top**
- Ideal for HFFS applications
- Single-piece spout and cap offers integrated tamper evidence
- Flip-top functionality allows single-handed use

**Screw-On**
- Diamond seal boat offers improved interaction between film and spout
- Tethered hinge keeps cap from blocking product flow
- Lightweight design reduces reliance on raw materials

**Benefits: Snap-On Fitments**
- Fully compatible with industry standards, these fitments have been engineered with the following tenets in mind:
- **Intuitive and Ergonomic**: We design our fitments to be accessible for people of all ages and abilities.
- **Lightweight**: Engineered to use less material, creating less strain on Earth’s resources.
- **Molded-In Bridge**: Ready for sealing without needing additional step for tamper evidence.
- **Compliance**: European regulations around single-piece fitments as well as Toynorm compliance.
- **Performance**: Comparable benefits to non-tethered options.

**Key Features: Snap-On Fitments**
- Cap and spout engage for hermetic seal
- Dual-purpose tamper evidence connects single-piece spout and cap after opening
- Diamond-shaped seal boat offers improved film and fitment seal
- 8.5mm inner diameter for quick and easy filling
- Windows offer ease-of-use for “locked in” resealing
- Cap snaps back on to reveal product to consume at a later time

Fully compatible with industry standards, these fitments have been engineered with the following tenets in mind:

**Intuitive and Ergonomic**
We design our fitments to be accessible for people of all ages and abilities.

**Lightweight**
Engineered to use less material, creating less strain on Earth’s resources.

**Molded-In Bridge**
Ready for sealing without needing additional step for tamper evidence.

**Compliance**
European regulations around single-piece fitments as well as Toynorm compliance.

**Performance**
Comparable benefits to non-tethered options.
Diamond Seals vs. Ribbed Seals

How do we create a better seal between the spout and the film for a stronger total package?

Product Simulation

CAE - FEA
During the product development of our seal boats, we use the Computer Aided Engineering (CAE) tool, Abaqus, to model and analyze the seal performance. This allows us to simulate and optimize the performance at an earlier product stage.

Injection Mold Flow Analysis
We use mold flow analysis (MFA) to analyze and modify injection molding parts, optimize cooling layout, and evaluate defects. This technology allows us to improve part performance in the design phase and creates optimal product designs for manufacturability.

Seal Step Simulation

Situation
Compare the traditional seal boat with the new diamond-shaped seal boat to generate information about the contact pressure during the seal step to determine if the overall performance of the parts during sealing has been improved.

Model
Implicit model: static compression 3D stress

Aseptic Expertise

Our History
We pioneered aseptic packaging technology for both bag-in-box and spouted pouches, helping you offer the best-quality product while expanding the potential channels and locations available to you.

- Shelf-stable, no refrigeration or preservatives required
- Extended freshness and longer shelf life
- Optimal flavor, texture, and nutrient retention
- Eliminates costs, logistics, and energy used in cold chain
- Opens up potential for food products in ecommerce.

Expand Your Potential with Aseptic Packaging Technology
Aseptic technology allows you to offer preservative-free, shelf-stable products that stay fresh up to 12 months on the shelf with no refrigeration needed. Aseptic opens your potential for ecommerce, while extended shelf life helps drive higher consumption and use in expanded locations.

Hermetic Seals: the Key to Aseptic-Capable Fitments
The first part of aseptic package technology is a hermetically sealed package. To ensure the package is hermetically sealed, we use a “bubble” pressure test to verify that nothing comes into or out of the package. We follow the FDA Bacteriological Analytical Manual, specifically chapter 22C. To ensure that our package is hermetically sealed and capable of commercial sterility, we perform a microbiological challenge test with Geobacillus stearothermophilus spores (GS1).
Materials Science and Development

We strive to be the best total flexible packaging solutions supplier, from development to production to service. We apply a scientific approach to all our R&D processes to offer innovative packaging solutions that fit your unique requirements.

Our extensive experience developing unique film blends and fitment designs provides protection and performance for a diverse range of products from dairy to battery acid. And, with globally-placed production capabilities and localized expertise, we can ensure your packaging solution is made with leading technology and quality.

The key to this expertise lies in our Materials Science Laboratory and partnerships with leading universities and innovation firms. Purdue University

For decades, we have partnered with Purdue University, known for their expertise in aseptic food and beverage production and packaging technology. Together, we educate food technologists from around the world and help innovative brands explore the value of aseptic.

Our fully-equipped materials science lab is staffed by expert scientists and technicians with chemistry and engineering backgrounds who develop testing methods, supporting all of our locations across the globe. The team helps verify and ensure that our products meet goals and regulations and protect customers’ products from filling through final dispensing.

All work done in the lab can be broken down into four types of projects:

- **Research and Development**
  - Our labs work closely with product development engineers to confirm production and functional specifications for new fitment and film innovations through extensive testing protocols.

- **Manufacturing Support**
  - We are constantly working to find a simpler way to make products. The lab determines if new film and fitment upgrades meet specifications and confirms quality at every step of the production process.

- **Commercial Support**
  - Ensuring product and package compatibility is critical to success. The labs perform sensory, shelf-life, and ship testing for all new innovations or any application change our customers explore.

- **Quality Support**
  - Our labs use a number of mechanical, chemical, and application tests to determine the root cause of any quality issues and to guide R&D teams toward designing the best flexible packaging possible.
### Materials Science Lab Capabilities

Our labs use a wide range of state-of-the-art testing equipment and analysis processes which cover polymers and applications testing.

#### Analytical Testing

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<th>Material Identification</th>
<th>Allows us to determine source materials.</th>
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<td>DSC (Differential Scanning Calorimetry)</td>
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<td>Polymer Degradation Analysis</td>
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<td>ATR-FTIR and FTIR Microscopy</td>
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<td>Gas Chromatography</td>
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<tr>
<td>Additive Analysis and Extractions</td>
<td>Tests different film combinations.</td>
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<td></td>
<td>Slip</td>
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<tr>
<td></td>
<td>Antioxidant</td>
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<tr>
<td></td>
<td>Antiblock</td>
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<tr>
<td>Barrier Testing</td>
<td>Measurements of barrier properties of film.</td>
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<tr>
<td></td>
<td>Oxygen Transmission Rate (OTR)</td>
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<tr>
<td></td>
<td>Moisture Vapor Transmission Rate (MVTR)</td>
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<tr>
<td></td>
<td>Optical Density</td>
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<tr>
<td>Microscope Analysis</td>
<td>Allows for analysis of film and fitment defects.</td>
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<td>Film cross-section (Micromet)</td>
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#### Applications Testing

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<th>Simulation of events bags could experience in real-life situations.</th>
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<td>Drop Test</td>
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<td>Shelf Life</td>
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<td>Seal Strength</td>
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<td>Burst and Maintain</td>
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<td>Shaker Table</td>
<td>Simulation of extreme road and rail conditions.</td>
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<td>Checks for main failure analysis</td>
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<td>Bag durability</td>
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<td>Corrugate containers and drums</td>
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**Dispensing**

Testing aimed to minimize product waste.

- Product evacuation rates
- Analysis for ideal dispensing conditions and specifications

#### Mechanical Testing - Film

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<th>Strength</th>
<th>Measures how much force is required to break or deform the bag.</th>
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<td>Tensile</td>
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<td>Elongation</td>
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<td>Tear</td>
</tr>
<tr>
<td></td>
<td>Puncture</td>
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<tr>
<td>Physical Properties</td>
<td>Measures general properties of the film for adherence to Scholle (IP) standards.</td>
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<tr>
<td></td>
<td>Modulus</td>
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<td></td>
<td>Peel Force</td>
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<td></td>
<td>Gauge</td>
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<tr>
<td>Gelbo Flex Testing</td>
<td>Measures how much the film can be flexed before degradation.</td>
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<td></td>
<td>Flex Durability</td>
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#### Coefficient of Friction (COF)

Measures COF for efficiency in filling.

- Slip content in film
- Statistics and dynamics of film movement on surfaces

### Mechanical Testing - Fitments

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<th>Instron (Force Testing)</th>
<th>Measures the force needed to seat—and unseat—the spout from the cap.</th>
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<td>Compression</td>
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<td>Removal</td>
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<td>Peel</td>
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<td>Actuation</td>
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<td>Functionality</td>
<td>Tests for leaks between the spout and cap to ensure hermeticity.</td>
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<td>Pressure methods:</td>
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<td>PSI (submerged)</td>
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<td>ATEQ</td>
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<td>Torque</td>
<td>Measures force needed to twist fitments into place.</td>
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<td>Manual test</td>
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**Leak Testing**

Tests for end-use functionality.

- Drip and Flow Rate
- Spring Rebound Testing
- Environmental Stress Crack Resistance (ESSR)
What We Offer

Fitment Solutions

Scholle IPN is known for our unique and market-shaping fitment solutions, including taps, caps, connectors, and hoses. We combine over 70 years experience with deep industry understanding to bring exceptional value to our global customers, delivering their products to market in exactly the way they were intended.

Our creative engineers work with customers to successfully design unique and valuable fitment solutions for any market. We strive to delight demanding end-users through innovative design and consistent delivery of user-friendly fitments you can rely on.

If you see this symbol, it means this fitment was engineered for the circular economy. For more information on what this means, please see page 19.
Scholle IPN is known for our unique and market-shaping fitment solutions, including taps, caps, connectors, and hoses. We combine over 70 years experience with deep industry understanding to bring exceptional value to our global customers, delivering their products to market in exactly the way they were intended.

### Retail Fitments for Bag-in-Box

#### Scholle IPN

- **CellarTap™**
  - Familiar retail tap with simple gravity dispensing featuring automatic shutoff.
  - Ideal for on-tap beverage dispensing
  - Tamper evident

- **FlexTap®**
  - Push-button gravity dispensing with automatic shutoff and flow rate control.
  - Ideal for on-tap beverage dispensing
  - Ergonomic, push-button tap
  - High-Flow dispensing

- **2300**
  - A self-closing thumb toggle valve for gravity dispensing of non-particulate products.
  - Gravity-dispense
  - Self-closing tap

- **1100**
  - Provide a consistent, simple experience to your customers with this self-closing thumb toggle valve.
  - Gravity-dispense
  - Self-closing tap
  - Ideal for water dispensing

- **Opti-Serve®**
  - A self closing thumb toggle valve for gravity dispensing of non-particulate products.
  - Gravity-dispense
  - Self-closing tap

### Scholle IPN’s Retail Tap Capabilities:

- **Filling Method**
  - Through Spout
- **Process Compatibility**
  - Ambient
  - Ultra-Clean (ECU)
  - High-Acid Aseptic

### Scholle IPN’s Capsule Capabilities:

- **Filling Method**
  - Through Spout
- **Process Compatibility**
  - Ambient
Retail Fitments for Pouch

Our creative engineers work with customers to successfully design unique and valuable fitment solutions for any market. We strive to delight demanding end-users through innovative design and consistent delivery of user-friendly fitments you can rely on.

CloverCap™ CS85RXL + CC85RCS
Designed for all ages as a choke-proof, easy-to-open cap for retail applications.
- Easy-to-open for all ages and abilities
- Choke-proof
- Tamper evident
- 8.5mm inner diameter

Process Compatibility
- Ambient
- Hot-fill

Filling Method
- Through Spout
- Horizontal Form-Fill-Seal

CloverCap™ CS85RO + CC85RCS
Designed for all ages as a choke-proof, easy-to-open cap for retail applications.
- Easy-to-open for all ages and abilities
- Choke-proof
- Tamper evident
- 8.5mm inner diameter

Process Compatibility
- Ambient
- Hot-fill

Filling Method
- Through Spout

Lightweight CloverCap®
CS85 RL + CC85RLCS
Traynorm compliant cap designed for all ages as an easy-to-open, tamper evident retail cap.
- Easy-to-open for all ages and abilities
- Choke-proof
- Tamper evident ring stays connected to spout when opened
- 8.5mm inner diameter
- Lightweight: <2.1 grams

Process Compatibility
- Ambient
- Hot-fill

Filling Method
- Through Spout
- Horizontal Form-Fill-Seal

Ergonomic, lightweight, and easy-to-open option for retail products.
- Compatible with a range of existing spouts
- Hermetic seal for shelf life protection
- Integrated tamper evidence
- Choke-proof
- Lightweight: <1.4 grams

Process Compatibility
- Ambient
- Hot-fill

Filling Method
- Through Spout
- Horizontal Form-Fill-Seal

ArrowCap™ CS85 RL + CC85AR
Designed for all ages as a choke-proof, easy-to-open cap for retail applications. Overall weight reduced ~20% compared to traditional CloverCap.
- Compatible with a range of existing spouts
- Hermetic seal for shelf life protection
- Integrated tamper evidence
- Choke-proof
- Lightweight: <2.1 grams

Process Compatibility
- Ambient
- Hot-fill

Filling Method
- Through Spout
- Horizontal Form-Fill-Seal

Retail Fitments for Pouch
### Preserves the freshness of your products while extending their shelf life.

- **Tamper evident**
- **8.5mm inner diameter**

#### Fill Methods
- **Horizontal Form-Fill-Seal**
- **Through Spout**

#### Process Compatibility
- **Ambient**
- **Hot Fill**
- **Retort**

#### Retail Fitments for Pouch

<table>
<thead>
<tr>
<th>CS85 XLR Spout + CC85 XLR Cap</th>
<th>TN85RO + CC865MT Cap</th>
<th>CS85RO + CC85R Spline Cap</th>
<th>CS85DG + CC85 Spline Cap</th>
<th>CS100 XLR Spout + CC100 XLR Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple, pour-out functionality for small-dose, retail applications. Tamper evident ring stays connected to spout when opened.</td>
<td>Designed for all ages and abilities as a Toynorm compliant, easy-to-open cap for retail applications. Tamper evident ring stays connected to spout upon opening.</td>
<td>Provide tamper evidence while preserving the freshness of your products and extending their shelf life. Only available as individual components Simple functionality</td>
<td>Provide tamper evidence while preserving the freshness of your products and extending their shelf life. Only available as individual components Simple functionality</td>
<td>Preserves the freshness of your products while extending their shelf life.</td>
</tr>
<tr>
<td>Works well for small-volume pouches Excellent option for product sample sachets</td>
<td>Easy-to-open for all ages and abilities Choke-resistant</td>
<td>Tamper evident</td>
<td>10mm inner diameter</td>
<td></td>
</tr>
<tr>
<td>5.5mm inner diameter</td>
<td>8.5mm inner diameter</td>
<td>8.5mm inner diameter</td>
<td>8.5mm inner diameter</td>
<td></td>
</tr>
</tbody>
</table>
## Retail Fitments for Pouch

### CS106 XLR + CC106V3 – Hanger Cap
- **Easy-to-open option for retail products sold on store peg hooks.**
- **Ideal for point-of-purchase displays**
- **10.8mm inner diameter**

### CS117LW
- **Easy-to-use spline-style cap uses less material than a standard spline cap.**
- **Tamper evident ring stays connected to the spout upon opening.**
- **11.7mm inner diameter**

### DD08 – 21mm
- **Provides quick pour-out functionality for large particulates in industrial applications.**
- **Tamper evident**
- **21mm inner diameter**

### DD09 – 5.5mm
- **Simple, pour-out functionality for small-dose, retail applications.**
- **Works well for small-volume pouches**
- **Excellent option for product sample sachets**
- **5.5mm inner diameter**

### LinkCap™
- **Lightweight design offers reduction of raw material usage as well as recyclability.**
- **Choke-proof fitment contains a dual-purpose tamper evidence that functions as a tether to keep cap connected to pouch.**
- **Improved spout seal and film interaction**
- **Snap-on feature reduces energy required in manufacturing and assembly process**
- **Lightweight design offers reduction in raw materials**
- **15mm inner diameter**

### DD09 – 5.5mm
- **Works well for small-volume pouches**
- **Excellent option for product sample sachets**
- **5.5mm inner diameter**

### LinkCap™ 15
- **Large-format pouch fitment boasts an integrated hinge for ease-of-use and tamper evidence.**
- **Tamper-proof fitment contains a dual-purpose tamper evidence that functions as a tether to keep cap connected to pouch.**
- **Improved spout seal and film interaction**
- **Snap-on feature reduces energy required in manufacturing and assembly process**
- **Lightweight design offers reduction in raw materials**
- **15mm inner diameter**

### Process Compatibility
- **Ambient**
- **Heat-Fil**
- **Through Spout**
- **Horizontal Form-Fill-Seal**

### Filling Method
- **Ambient**
- **Heat-Fil**
- **Through Spout**
- **Horizontal Form-Fill-Seal**
What does it mean to be “Toynorm compliant?”
EN71-1, commonly referred to as “Toynorm,” is used as a reference to ensure our products are safe for children. Any components that separate from the pouch cannot fit in the small parts cylinder, as specified by EN71-1. This standard aims to reduce any possible hazards that may not be evident to users. To be compliant, a product must:

- Use clean, safe materials
- Have no sharp edges or sharp points
- Be choke-proof

What does this have to do with tethered caps?
We have designed our various tethered cap solutions, specifically ones that will be used in children’s products, to be Toynorm compliant. We use an independent lab to test and verify that our fitments are fully compliant. Since many of our tethered cap solutions, including the CC85LFS, will be utilized for products consumed by children, we strive to ensure that these hazards are not present.

How does a part become certified as “Toynorm compliant?”
The component must pass the specified use and abuse tests of EN71-1. These include, but are not limited to:

- Torque test
- Tamper evident

If during any of these tests, the parts or pieces separate, they may not fit in the small parts cylinder. If any of the aforementioned tests fail, the product will not be certified as Toynorm compliant.
Institutional Fitments for Bag-in-Box

Our institutional fitments power dispensing systems around the world. Any flowable liquid product - whether it’s a food, beverage, or chemical - dispenses safely, efficiently, and thoroughly with our complete flexible packaging systems.

### 800
- **Hose Cap**: A two-position fitment designed for use with standard gravity dispensing systems.
  - ESL-capable
  - Ideal for gravity dispensing

### 1500
- **Cap**: A single-position cap for use in ambient and aseptic applications for pump-out dispensing.
  - Low-acid aseptic-capable
  - Ideal for pump-out dispensing

### 4100
- **Cap**: Porous fitment for gravity or peristaltic-style dispensers.
  - Crimped hose end is easily cut to begin flow
  - Hose wrapped in plastic to ensure cleanliness
  - Flow restrictor plate allows for dosing of both thick and thin liquids

### 4105
- **Cap**: Porous fitment for gravity or peristaltic-style dispensers.
  - Hand-removable cap
  - ESL-capable

### 1400
- **Cap**: A single position, hand-removable cap designed primarily for use in the dairy and egg industry.
  - Hand-removable cap
  - ESL-capable
  - Hose options available

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Institutional Fitments for Bag-in-Box

### Process Compatibility
- Ambient
- Ultra-Clean (ESL)

### Filling Method
- Through Spout

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Institutional Fitments for Bag-in-Box

### Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic
- Low-Acid Aseptic

### Filling Method
- Through Spout

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### Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic
- Low-Acid Aseptic

### Filling Method
- Through Spout

---

### Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic
- Low-Acid Aseptic

### Filling Method
- Through Spout

---

### Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic
- Low-Acid Aseptic

### Filling Method
- Through Spout
Institutional Fitments for Bag-in-Box

800X
Single-position, removable cap for bulk liquids.
- High-acid aseptic capable
- Hermetic seal for shelf life protection
- Ideal for pour-out applications
- Cap is hand-removable

Filling Method
- Through Spout

Process Compatibility
- Ambient
- Hot-Fill
- High-Acid Aseptic

800L
Single-position, removable cap for bulk liquids.
- Low-acid aseptic capable
- Hermetic seal for shelf life protection
- Ideal for pour-out applications
- Cap is hand-removable

Filling Method
- Through Spout

Process Compatibility
- Ambient
- Hot-Fill
- Ultra-Clean (ESL)
- High-Acid Aseptic

800R
Single-position, removable cap for bulk liquids.
- High-acid aseptic capable
- Hermetic seal for shelf life protection
- Ideal for pour-out applications
- Cap is hand-removable

Filling Method
- Through Spout

Process Compatibility
- Ambient
- Hot-Fill
- Ultra-Clean (ESL)
- High-Acid Aseptic

Pour-out fitment with a sealed membrane to provide tamper evidence. Can be used in dispensing systems.
- Innovative, twist-on cap
- Works well for products with lower viscosities like soy sauce

2500
Filling Method
- Through Spout

Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic

6300
Single-position, removable cap for bulk liquids.
- High-acid aseptic capable
- Hermetic seal for shelf life protection
- Ideal for pour-out applications
- Requires tool to remove cap
- 38mm thread

6300T
The 6300 T combination is designed for aseptic, ESL, and ambient filling applications.
- Hand-removable via screw-on/ screw-off functionality
- 38mm thread

Institutional Fitments for Bag-in-Box

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Single-position, removable cap for bulk liquids.
- High-acid aseptic capable
- Hermetic seal for shelf life protection
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Filling Method
- Through Spout

Process Compatibility
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- Hot-Fill
- High-Acid Aseptic

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Filling Method
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Filling Method
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- Hot-Fill
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Pour-out fitment with a sealed membrane to provide tamper evidence. Can be used in dispensing systems.
- Innovative, twist-on cap
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2500
Filling Method
- Through Spout

Process Compatibility
- Ambient
- Ultra-Clean (ESL)
- High-Acid Aseptic
 Provides a simple interface and maximum protection with a screw cap and secondary tamper-evident plug.  
- Tamper evident
- Ideal for pour-out applications

Low-acid aseptic-capable

Ideal for pour-out applications

Dispense products safely and economically with this closed-loop option for pump-out dispensers. Available in SBS for the beverage market and SEBS for chemical markets.
- Provides closed-loop dispensing
- Ideal for pump-out applications
- Available in both 4-pitch (4NC) and 6-pitch (NC) thread options

Provides closed-loop dispensing

Ideal for pump-out applications

- Provides closed-loop dispensing
- Works well in chemical and beverage applications

Provides closed-loop dispensing

Works well in chemical and beverage applications

Good for when space is at a premium. Available in a 3/8" hose barb.
- Provides closed-loop dispensing
- Works well in chemical and beverage applications

Institutional Fitments for Bag-in-Box
A universal, high-flow beverage fitment, compatible with all relevant trade connectors and filling equipment.

Compatible with all relevant trade connectors

Requires no change parts for filling equipment

Versi

A universal, high-flow beverage fitment, typically used for lower viscosity products like coffee concentrates.

16mm inner diameter
Can be plugged into an adapter

• High-Acid Aseptic
• Low-Acid Aseptic
• Ambient
• Through Spout

Versi L Connector

Good for connecting one bag at a time or when using a changeover valve. Available in a 3/8” hose barb.

• Provides closed-loop dispensing
• Works well in soft drink, flavoring, coffee, and tea applications

Versi T Connector


• Provides closed-loop dispensing
• Works well in soft drink, flavoring, coffee, and tea applications

Versi S Connector

Good for when space is at a premium. Available in a 3/8” hose barb.

• Provides closed-loop dispensing
• Works well in soft drink, flavoring, coffee, and tea applications

Institutional Fitments for Bag-in-Box

Steriseal® - 8900

A circular, aseptic fill fitment typically used on 2-fitment bags up to 20L.

• 32mm inner diameter
• Dispense is typically through a hose fitment

Steriseal® - 9003

A circular fill and dispense fitment. Typically used for lower viscosity products like coffee concentrates.

• 16mm inner diameter
• Can be plugged into an adapter

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Steriseal® - 9003

A circular fill and dispense fitment. Typically used for lower viscosity products like coffee concentrates.
Intuitive toggle-style fitment uses gravity to dispense liquids.

- Clip-on toggle lock prevents accidental activation of the fitment
- Rugged construction ideal for institutional use
- Design allows the user to easily regulate speed of flow

**Filling Method**
- Through Spout

**Process Compatibility**
- Ambient
- Ultra-Clean (ESL)
- Hot-Fill
- High-Acid Aseptic

**Institutional Fitments for Bag-in-Box**

**PureFlow™ Aseptic Ball Valve**
An aseptic-capable ball valve fitment that allows for dispensing of preservative-free beverage products.
- Works with BUNN and Cornelius dispensers
- Ideal for dispensing preservative-free products

**HFT**
A simple, two-position turn tap functionality for easy-on/easy-off gravity dispensing.
- Two-position turn tap
- Ideal for gravity dispensing
- High-flow tap for more efficient dispensing

**TruSeal® - 4200**
Intuitive toggle-style fitment uses gravity to dispense liquids.
- Clip-on toggle lock prevents accidental activation of the fitment
- Rugged construction ideal for institutional use
- Design allows the user to easily regulate speed of flow

**Filling Method**
- Through Spout

**Process Compatibility**
- Ambient
- Ultra-Clean (ESL)
- Hot-Fill
- High-Acid Aseptic

**FastFlow Sentry SafeLock®**
offer safety and convenience with simple hose or direct-connect functionality.
- Ideal for closed-loop dispensing
- Hose options available
- Works well for higher viscosity liquids like milkshakes
- Peels membrane from fitment when engaged

**Filling Method**
- Through Spout

**Process Compatibility**
- Ambient
- Hot-Fill
- Ultra-Clean (ESL)
- High-Acid Aseptic

**QuickSeal Sentry SafeLock®**
Offer safety and convenience with simple hose or direct-connect functionality.
- Ideal for closed-loop dispensing
- Can be disconnected for dispenser cleaning protocols

**Filling Method**
- Through Spout

**Process Compatibility**
- Ambient
- Hot-Fill
- Ultra-Clean (ESL)
- High-Acid Aseptic

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**Process Compatibility**
- Ambient
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- High-Acid Aseptic
Institutional Fitments for Bag-in-Box

QuickSeal Sentry SafeLock® Connect

Connector that locks into the QuickSeal Sentry SafeLock fitment for use in dispensing applications like smoothies and coffees.
- Comes in 3/16” and 3/8” hose barbs
- Available with and without check valves
- Ideal for closed-loop dispensing
- Locks into place for added security

Process Compatibility
- Ambient

Filling Method
- Through Spout

Sentry SafeLock®

Offer safety and convenience within closed-loop dispensing systems.
- Ideal for closed-loop dispensing
- Hose options available

Process Compatibility
- Ambient
- Hot-Fill
- Ultra-Clear (ULC)
- High-Acid Aseptic
- Low-Acid Aseptic

Filling Method
- Through Spout

Sentry SafeLock® Connect

Connector that locks into the Sentry SafeLock fitment for use in dispensing applications like smoothies and coffees.
- Comes in 3/10” hose barb
- Available with and without check valves
- Peels membrane from fitment when engaged
- Locks into place for added security

Process Compatibility
- Ambient

Filling Method
- Through Spout

Sentry SafeLock® Pierce Probe

Connector that plugs into a Sentry SafeLock. Typically used as a 3/10” hose solution on single-fitment bags.
- Peels membrane from fitment when engaged
- Works well with lower viscosity liquids like coffee creamer

Process Compatibility
- Ambient

Filling Method
- Through Spout

Institutional Fitments for Bag-in-Box

Each year, Scholle IPN molds billions of fitments and packaging components in locations across the globe in highly-automated, clean room facilities with Industry 4.0 technology.
Institutional Fitments for Pouches

Whether it’s a concentrated chemical or flavorings for beverages, our institutional pouch fitments allow you to safely and efficiently dispense your products in precise doses.

Clean-Clic® Connector Family

Provides maximum product safety by keeping the flexible packaging completely closed throughout the filling process.

- Ideal for closed-loop dispensing
- Works well in quick-connect applications
- 4mm or 6mm inner diameter

Fluid Connector Family

Provides maximum product safety by keeping your package fully closed throughout the dispensing process. Offers airless filling, closing automatically and protecting your product from oxygen exposure.

- Ideal for closed-loop dispensing
- Works well in quick-connect applications
- 4mm or 6mm inner diameter

Fluid Connector System

The Fluid Connector family of products offers not only a closed-loop dispensing option, but also a closed-loop filling option. Ideal for oxygen-sensitive products, our Fluid Connector fitments provide maximum product and consumer safety.

Designed for horizontal form-fill-seal packaging, these fitments work well for chemical, nutraceutical, pharmaceutical, and post-mix applications.

With the Fluid Connector family of fitments, you can ship your products in concentrates, reducing the amount of water being shipped. This offers a reduction in carbon emissions created due to the filling and shipping of your product.

Whether it’s a concentrated chemical or flavorings for beverages, our institutional pouch fitments allow you to safely and efficiently dispense your products in precise doses.

The Coca-Cola Freestyle® features the FC78 pouch connector for highly-concentrated fluids.
Industrial Fitments for Bag-in-Box

Our industrial filling and dispensing fitments allow you to safely fill, transport, and dispense your products and ingredients in secure packaging that offers cost savings and reduced stress throughout the supply chain.

800
Simple, reliable aseptic pour-out functionality for industrial applications.
- Low-acid aseptic-capable
- Ideal for pour-out applications
- Different cap colors available

Filling Method: Through Spout
Process Compatibility:
- Ambient
- Hot Fill
- Ultra-Clean (ESL)
- High-Acid Aseptic
- Low-Acid Aseptic

3400
Quickly load and unload bulk, hot-fill or aseptically-packaged fruits and vegetables.
- Ideal for bulk storage and dispensing
- Works well in high-volume processing environments

Filling Method: Through Spout
Process Compatibility:
- Ambient
- Hot-Fill
- High-Acid Aseptic

5900
The 5900 is a 2” dispense fitment for use on IBCs. Includes a cutting edge to cut through the membrane, preparing the package for pump-out dispensing.
- Membrane for tamper evidence
- Applicable for food and chemical markets
- Re-sealable
- Typically used on two-fitment packages

Filling Method: Through Spout
Process Compatibility:
- Ambient
- Hot-Fill
- High-Acid Aseptic
- Low-Acid Aseptic

2000
The Tri-Sure® is a 2” fill fitment for use on IBCs, but can also be used for dispense. The cap can be replaced to close the package for future use if not fully dispensed.
- Membrane for tamper evidence
- Applicable for food and chemical markets
- Ideal for institutional and industrial applications

Filling Method: Through Spout
Process Compatibility:
- Ambient
- Hot-Fill
- High-Acid Aseptic
- Low-Acid Aseptic

Tri-Sure®
A two-position fitment combination for use in low-acid aseptic filling applications.
- High- and low-acid aseptic-capable

54
1700

Safety fill and store a wide range of aseptic fruit and vegetable products.

- High- and low-acid aseptic-capable
- Ideal for bulk fruit and vegetable packaging

5100

Designed to provide tamper-evident, aseptic protection for bulk flexible packaging.

- Low-acid aseptic-capable
- Tamper-evident
- Ideal for bulk transport of fruit and vegetables

Sterisale® - 8900R

A rectangular fill fitment typically used for high fill speeds or large particulates in packages up to 300 gallons.

- 32mm inner diameter

Jerrbox

Composite packaging for agricultural chemicals that minimizes user risk.

- Ideal for agricultural chemicals and edible oil
- Eliminates glugging associated with rigid packaging
- Sustainable solution with less landfill waste

Quality is at the core of our business. Our fitments are designed and produced to meet rigorous specifications that help protect your product throughout its life.
Film
Extrusion and Lamination

We have extensive experience developing unique film blends which provide the ultimate protection and package performance for a diverse range of flowable products. From time-sensitive, fresh foods and beverages, to aggressive chemicals and sensitive pH products, our flexible packaging solutions are designed to protect your product and keep it safe from fill through final dispensing. We offer:

- Recyclable film solutions that enable you on your journey towards a more circular economy.
- Barrier protection designed to keep your product safe and extend secondary shelf life.
- Solutions that fit seamlessly where you need them, whether in retail, institutional, or industrial applications.
Horizontal form-fill-seal equipment combines component materials (film and fitments) into a formed, filled product all in one, highly-efficient machine.

Hybrid equipment brings together the speed and efficiency of on-site package manufacture with the consistency and quality of through-spout filling in a form-seal-fill method.

Keep it simple. Scholle IPN manages the quality manufacture of your pouches or bag-in-box packaging. Once on-site, your operations finish the job with reliable, modular filling systems.