The global SCHÜTZ drum portfolio:

As an international supplier of packaging systems we consistently adapt our product range to meet the needs of our customers. SCHÜTZ supplies both global standard drums as well as customised product solutions for regional requirements and specific applications.
The SCHÜTZ F1 tight-head drum is a true global player. It is produced at all SCHÜTZ sites on all continents to the same design and specifications. Its outstanding characteristics are high dimensional accuracy and exceptional overall performance.

These superior characteristics are the result of the patented design and the use of new, highly developed plastics, which further enhance the advantages of the F1 over conventional standard drums:

- Better performance in drop test under cold conditions
- Greater impact strength at low temperatures
- Increased chemical and stress crack resistance
- Significantly increased stacking stability
SCHÜTZ F1 TIGHT-HEAD DRUMS

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>220 litres</th>
<th>(US) 208 litres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior height</td>
<td>935 mm</td>
<td>882 mm</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>581 mm</td>
<td>592 mm</td>
</tr>
<tr>
<td>Type of tight-head opening</td>
<td>570 x 6/556 x 4</td>
<td>2”buttness x 2”NPS</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1H1/Y1.9/200/…</td>
<td>UN 1H1/Y1.9/150/…</td>
</tr>
<tr>
<td>Weight</td>
<td>8.1 kg</td>
<td>8.8 kg</td>
</tr>
</tbody>
</table>

The drum types and filling opening models shown here comprise our standard line. We will be glad to answer your enquiries about customized designs and additional technical details regarding our drum types.
The advantages of the SCHÜTZ F1.

Global availability and universal usability make the SCHÜTZ F1 tight-head drum the perfect all-round product for companies that operate globally. The innovative design and advanced manufacturing methods give the F1 drum decisive advantages compared with conventional tight-head drums, and they set new standards in performance and handling.

Suitable for automatic filling lines
The bungs are precisely calibrated and the bottom plate, which is optimised for automatic filling systems, has excellent stability and handling characteristics.

Efficient transport and easy handling
The drum dimensions are optimised for transport in ISO containers. The stable upper ring and the grip hole in the base guarantee easy handling – and can be easily moved with all standard drum grippers.
Low tare weight
Reduced material quantity and compliance with the highest safety standards gives the F1 drum an excellent eco balance.

Best residual draining
The optimised geometry of the upper plate with sloping sides enables residual draining to less than 100 ml (in accordance with VPA) through both bung holes.

Top plate drainage
A small opening in the handling-ring of the SCHÜTZ F1 prevents liquid from collecting on top of the drum.

Best stackability
The upper ring is higher than the top plate, meaning that the weight is transmitted to the drum walls and not to the top, like in conventional drums.

Optimum protection of bungs and labels
The bungs and labels are ideally protected during transport and stacking due to the higher upper ring.
The innovative seal cap system with the AUTOMATIC LOCK originality seal protects your filling products from tampering or contamination. It is impossible to open the plug without destroying the seal cap. Suitable for manual and automatic fitting.

The system consists of a red or white sealing cap and a corresponding plug with special latching hooks. Two sizes available – suitable for different bung designs.
Discover the advantages compared to other sealing caps:

- The cap is held by the plug, not by the bung
- Real seal function, no removal without destroying the cap
- Self-centering system which is suitable for automatic fitting
- Made of hygienic and non-corrosive material
- FOODCERT approval – perfectly suitable for foods
- No tools required for opening
- Easy to open thanks to a pull ring
Few segments have such complex demands when it comes to packaging as the food industry. To provide our customers in this segment with the comprehensive safety they require, we have introduced a new premium standard for our packaging: the SCHÜTZ FOODCERT.

SCHÜTZ F1 tight-head drums in the FOODCERT version provide the highest level of food safety with regard to material, production process and the end product:

- Fully conforms to the standards of international food laws
- System certification in accordance with FSSC 22000 (Food Safety System Certification)
- Certification recognised by the GFSI (Global Food Safety Initiative)
- Comprehensive preventive measures in accordance with HACCP
- Full traceability back to batch and process level
- Halal and kosher certification
- Regular microbiological controls of the finished packaging
- The drums are individually packed and stored in covered areas prior to shipping
Includes system certification to FSSC 22000
Packaging is a key quality factor in an increasing number of industries. SCHÜTZ CLEANCERT is the new packaging standard for applications where safety and technical cleanliness play a key role. Compliance with the highest product purity and complete avoidance of contamination starts with the materials that are used and must be firmly anchored as a principle along the entire production chain.

CLEANCERT is the highest cleanliness and safety standard for product and process that SCHÜTZ offers:

- Comprehensive preventive measures in accordance with HACCP
- Finished packaging has the highest technical cleanliness
- Full traceability back to batch and process level
- Material of components that come into contact with the filling good free of silicones
- The drums are individually packed and stored in covered areas (optional) prior to shipping
Option: Inside Layer Natural
To ensure the highest material compatibility the drums can optionally be produced with an inner layer made of undyed, high purity HDPE.

SCHÜTZ F1 tight-head drums in the CLEANCERT version are ideal for use in highly quality sensitive areas, such as:

- Paints and varnish producing and processing industries
- Cosmetics and hygiene products
- Pharmaceuticals industry
- Semi-conductor and electronics industries
SCHÜTZ S-DS1 open-head drums.

Whether solid, viscous or liquid hazardous goods – the SCHÜTZ S-DS1 open-head drum has been tested and proven over and over in a wide range of different applications.

- Dimensions compliant with DIN 12714 NC and the VCI Manual
- One hundred percent sealing between the lid and body ensured through lid sealant with high resilience
- Easily closed
- Protected clamp-rings prevent packaging units from climbing during transport
- Can be handled with conventional drum grippers
- Closed lid or filling bung (on request)
For solid and viscous products

<table>
<thead>
<tr>
<th>SCHÜTZ S-DS1 OPEN-HEAD DRUM</th>
<th>30 litres</th>
<th>60 litres</th>
<th>120 litres</th>
<th>150 litres</th>
<th>220 litres</th>
<th>120 litres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior height</td>
<td>520 mm</td>
<td>620 mm</td>
<td>800 mm</td>
<td>965 mm</td>
<td>978 mm</td>
<td>800 mm</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>315 mm</td>
<td>400 mm</td>
<td>496 mm</td>
<td>503 mm</td>
<td>590 mm</td>
<td>496 mm</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1H2/X60S/</td>
<td>UN 1H2/X105S/</td>
<td>UN 1H2/X225S/</td>
<td>UN 1H2/X232S/</td>
<td>UN 1H2/X320S/</td>
<td>UN 1H2/Y1.5/100/</td>
</tr>
<tr>
<td>Weight</td>
<td>2.1 kg</td>
<td>3.5 kg</td>
<td>5.5 kg</td>
<td>6.2 kg</td>
<td>9.5 kg</td>
<td>6.9 kg</td>
</tr>
</tbody>
</table>

For liquids

<table>
<thead>
<tr>
<th>SCHÜTZ S-DS1 OPEN-HEAD DRUM</th>
<th>30 litres</th>
<th>60 litres</th>
<th>120 litres</th>
<th>150 litres</th>
<th>220 litres</th>
<th>120 litres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior height</td>
<td>520 mm</td>
<td>620 mm</td>
<td>800 mm</td>
<td>965 mm</td>
<td>978 mm</td>
<td>800 mm</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>315 mm</td>
<td>400 mm</td>
<td>496 mm</td>
<td>503 mm</td>
<td>590 mm</td>
<td>496 mm</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1H2/X60S/</td>
<td>UN 1H2/X105S/</td>
<td>UN 1H2/X225S/</td>
<td>UN 1H2/X232S/</td>
<td>UN 1H2/X320S/</td>
<td>UN 1H2/Y1.5/100/</td>
</tr>
<tr>
<td>Weight</td>
<td>2.1 kg</td>
<td>3.5 kg</td>
<td>5.5 kg</td>
<td>6.2 kg</td>
<td>9.5 kg</td>
<td>6.9 kg</td>
</tr>
</tbody>
</table>

The drum types and filling opening models shown here comprise our standard line. We will be glad to answer your enquiries about customized designs and additional technical details regarding our drum types.
The ideal drum system for transporting chemicals. These drums were designed specially for the North American market and comply with the standard US dimensions.

- Standardized production worldwide simplifies reconditioning and multiple usage
- Production in the United States, Mexico and, upon request, in Germany
- Base ring on bottom provides greater stability, better stacking and easier handling when rolling
- Can be handled with conventional grippers – same handling as with plastic/steel and fibre drums
- Container dimensions compliant with ISO specifications
- Available with closed lid or filling opening closures (on request)
The drum types and filling opening models shown here comprise our standard line. We will be glad to answer your enquiries about customized designs and additional technical details regarding our drum types.

<table>
<thead>
<tr>
<th>SCHÜTZ OC OPEN-HEAD DRUM</th>
<th>132 l / 35 gal</th>
<th>208 l / 55 gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior height</td>
<td>860 mm / 34 inches</td>
<td>940 mm / 37 inches</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>474 mm / 19 inches</td>
<td>578 mm / 23 inches</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1H2/Y125/S/</td>
<td>UN 1H2/Y300/S/</td>
</tr>
<tr>
<td>Weight</td>
<td>7.5 kg / 17 lbs</td>
<td>11.1 kg / 23 lbs</td>
</tr>
</tbody>
</table>
Requirement: Permeation causes gradual changes that pose a threat to packaged filling products. For example, the environment can be contaminated by flammable, toxic or corrosive substances permeating out of the container. This loss of substance can also have a negative impact on the quality of the filling product, as can the uncontrolled permeation into the container of external substances.

AN EXAMPLE OF A PRODUCT SOLUTION:
SMP – Surface Modified Plastics by SCHÜTZ
- Using a special fluorination process a highly effective anti-permeation layer is applied to the interior and exterior walls of the drum
- This process is available for the entire range of SCHÜTZ drums

YOUR BENEFITS:
- You profit from better resistance to solvents, perfect transport safety and longer shelf-life for your packaged products
- Better environmental protection due to exceptionally low permeation
- Highly effective odour and aroma barrier

Requirement: With standard plastic packaging, transport and handling, filling and emptying processes can cause an electrostatic charge, which makes them unsuitable for use in ex-zones.

AN EXAMPLE OF A PRODUCT SOLUTION:
SCHÜTZ F1-EX 220 l tight-head drum
- The conductive outer layer of the drum prevents the plastic building an electrostatic charge
- The filling product is earthed through a contact strip integrated in the drum wall which ensures a conductive connection between the inside of the drum and the outside

YOUR BENEFITS:
- Safe use of PE drums in ex-zones 1 + 2
- Suitable for filling products categorised in Explosives Groups IIA and IIB with a minimum ignition energy > 0.2 mJ
- Suitable for liquids with a flashpoint ≤ 60 °C
HIGHLY SURFACE-ACTIVE CHEMICALS

Requirement: Surface-active chemicals, such as detergents, can damage the HDPE material of the drum. Under extreme transport conditions, for instance when the drums are exported in shipping containers, this can cause stress cracks.

AN EXAMPLE OF A PRODUCT SOLUTION:
SCHÜTZ S-DS1 open-head drum with an inner layer of polyethylene resistant to stress cracking
- Produced using a multi-layer process
- Available in the sizes 120 l and 150 l and in a choice of weights

YOUR BENEFITS:
- Enhanced transport safety thanks to packaging with increased resistance to chemicals
Competence in steel.

Steel is a material that has a long tradition at SCHÜTZ – our company is one of the biggest processors of steel sheets in Europe. In keeping with our vision of supplying the optimum packaging for every filling product and every application, we produce a wide range of high quality steel drums.

Our own Steel Centers in Europe, North America and Asia allow us to adapt our range swiftly and flexibly to customers’ specifications and enable us to guarantee continual availability.
For the exterior design we offer high-quality stove enamelling in any colour and modern screen printing options.

After closing a special process prevents rust from forming inside the drum as a result of air moisture condensation.

With an inner surface coating chosen to match the specifications of the filling product, our drums meet the highest standards in corrosion resistance, surface durability and the protection of product purity.

Our own test labs with state-of-the-art equipment and our long-standing business relationships with the world’s leading steel manufacturers guarantee consistently high quality.

We develop and build our own production units, which are amongst the most advanced production lines for steel drums. They produce drums in a wide variety of specifications efficiently and with exceptional precision.
SCHÜTZ SSF corrugated tight-head drums.

Absolute security, tested and proven a million times around the world: SCHÜTZ corrugated tight-head drums are ideally suited for transport of liquid hazardous goods in UN packaging groups I, II and III.

<table>
<thead>
<tr>
<th>SCHÜTZ SSF CORRUGATED TIGHT-HEAD DRUM</th>
<th>216.5 litres</th>
<th>216.5 litres SPECIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior height</td>
<td>884 mm</td>
<td>884 mm</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>585 mm</td>
<td>585 mm</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1A1/X/250/</td>
<td>UN 1A2/Y1.8/200/</td>
</tr>
</tbody>
</table>

The drum types and filling opening models shown here comprise our standard line. We will be glad to answer your enquiries about customized designs and additional technical details regarding our drum types.
SCHÜTZ SSF corrugated tight-head drums.

- Cold-rolled thin sheet DC01Am compliant with DIN 10130
- Welded shield, flattened welding seam at both fold and border areas
- Bottom and lid with triple safety seam. Two rolling or negative hoops, additional reinforced hoops available on request
- Processing of varying material thicknesses: 0.8 – 1.2 mm
- Safety screw fittings G2 and G3/4, on opposite sides of top
- Additional filling hole NW230 (216.5 litres SPECIAL) available
- Inner surface protection: plain steel or lacquer-lined, prepared for the filling goods by stability test
- Exterior: coating in the colour of your choice, solid or multiple colours, tops and shells of corrugated tight-head drums can be screen-painted
- Special designs available on request
SCHÜTZ SDF corrugated open-head drums.

The classic form of industrial bulk packaging offers optimum protection for the transport of solid or liquid products in UN packaging groups I, II and III.

- Cold-rolled thin sheet DC01Am compliant with DIN 10130
- Welded shell, flattened welding seam at fold and border area
- Bottom with triple safety seam, two rolling or negative hoops, additional reinforced hoops available on request
- Processing of varying material thicknesses: 0.8 – 1.2 mm
- Completely removable lid, available upon request with safety screw fitting G2 and G3/4, on opposite sides of lid. Gasket ring of cellular rubber. Additional filling hole NW180 available
- Clamp-ring of galvanized hoop with lever lock
- Inner surface protection: plain steel or lacquer-lined, prepared for the filling goods by stability test
- Exterior: coating in the colour of your choice, plain or multiple colours, optional screen printing on top and sides
- Special designs available on request
The drum types and filling opening models shown here comprise our standard line. We will be glad to answer your enquiries about customized designs and additional technical details regarding our drum types.

<table>
<thead>
<tr>
<th>SCHÜTZ SDF CORRUGATED OPEN-HEAD DRUMS</th>
<th>For solid and viscous products</th>
<th>For liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>210 litres 213 litres</td>
<td>210 litres 213 litres</td>
</tr>
<tr>
<td>Exterior height</td>
<td>869 mm 880 mm</td>
<td>871 mm 880 mm</td>
</tr>
<tr>
<td>Exterior diameter</td>
<td>585 mm 605 mm</td>
<td>585 mm 605 mm</td>
</tr>
<tr>
<td>Hazardous goods certification (min.)</td>
<td>UN 1A2/X300/S UN 1A2/Y270/S</td>
<td>UN 1A2/Y120/ UN 1A2/Y100/</td>
</tr>
</tbody>
</table>
Steel drums for special applications.

**USE OF STIRRERS**

**Requirement:** Tight-head drums are common, medium-sized containers that are used for a wide variety of liquid filling products. However, a standard tight-head drum is unsuitable if the filling product requires stirring prior to discharge or use.

An example of a product solution: **SCHÜTZ SSF 216.5 L SPECIAL**
- In addition to the two bung holes, this version has a DN 230-opening on the top
- Standard stirrers with folding wings can be easily inserted

**YOUR BENEFITS:**
- Fast, convenient stirring processes directly inside the drum
- Greater cleanliness and optimum residual emptying

**AUTOMATIC DRUM EMPTYING**

**Requirement:** When working with viscous and highly viscous media it is often necessary to use drum pumps that use high pressure to automatically empty the drums.

An example of a product solution: **SCHÜTZ 213 L CYLINDRICAL STEEL OPEN-HEAD DRUM**
- Developed specially for automatic emptying
- Stable version without hoops

**YOUR BENEFITS:**
- Clean and even emptying
- Outstanding residual emptying characteristics

**INDIVIDUAL BRANDING**

Emphasise your brand with an unmistakable drum design:
- We can produce steel drums with high-quality stove enamelling in any colour according to your exact wishes.
- Additional markings – e.g. your logo – can be printed in a single or multi-colour screen print process.
**Requirement:** Many hazardous goods require special care when packaging and transporting them. These include very permeable products, aggressive, corrosive substances and those that are harmful for health and the environment. To meet these specifications, the packaging must offer the highest level of safety along the entire supply chain.

**An example of a product solution:**

**SCHÜTZ CSF POLY COMPOSITE DRUM**
- Steel drum with a PE inner bottle
- Two types available: 202 l and 205 l nominal volume

**YOUR BENEFITS:**
- Maximum protection thanks to a double container: if the inner PE bottle fails, the steel drum provides a safety margin
- Combines the stability, safety and permeation protection of steel containers with the cleanliness, corrosion and chemical resistance of PE packaging
- Can be closed immediately after filling with hot products (unlike standard PE drums)
- Better stackability compared with pure PE drums: either four or five high or as a pyramid
Quality and dependability.

We aim to supply our customers with optimum drum solutions, and that is why we are continually expanding our range of PE and steel drums and increasing our market coverage. SCHÜTZ’s global safety, health protection, environmental and quality management systems ensure that our packaging always meets the very highest standards.
Regular audits and monitoring by external experts are backed up by permanent process and laboratory tests in our own testing labs to guarantee permanent quality control.

Our products for special applications (e.g. for hazardous goods or for use with foods) fully comply with all international legislation and have the appropriate certifications.
The global SCHÜTZ production system is based on the core competence in metal and plastics processing we have built over a period of many decades. We not only focus on the development and production of high quality packaging, we also design and build all the equipment, machinery and tools we need for production.
The key technology behind the superior performance of our PE drums is the continuous blow moulding process developed and used by SCHÜTZ:

- It guarantees consistent drum wall thicknesses without deviations, tears or inclusions, thus ensuring exceptional stability and robustness, and optimised material use.
- Multi-layer extrusion allows up to three different materials to be used – to optimally adapt the drum characteristics to highly specific applications.
- Intelligent production layouts and machine solutions, such as the dual blow moulding unit, allows us to further boost production efficiency.
- All processes have been optimised for hygiene, technical cleanliness and risk prevention, thus also allowing us to offer our customers the highest packaging standards such as FOODCERT & CLEANCERT.
Safety & Originality.

The task of our PE and steel drums is the safe transport of filling products while at the same time protecting the original quality until the product is needed. To achieve this we use the highest safety standards and intelligent product and process solutions.

- Our UN-approved drums exceed the standards of the type tests of the BAM (Federal Institute for Materials Research and Testing).
- Regularly conducted tests with production samples confirm this very good safety performance.
- We view product safety as a complete system – which is why nearly all bungs and lids, and a large proportion of the seal caps and closures are produced in-house.
Effective product protection needs to be assured across the entire supply chain. In many quality-sensitive areas it is crucial to effectively protect the filling product against tampering or contamination.

SCHÜTZ provides a complete originality protection programme:

**Open-head drums**
- Locking plates on the clamp ring, with or without lead seals
- Plastic security pins (which break when the drum is opened)
- Steel seals

**Steel tight-head drums**
- Steel seal caps in varying sizes and colours, with or without printing

**PE tight-head drums**
- The automatic seal cap system with AUTOMATIC LOCK originality seal
- Steel and plastic seal caps in varying sizes and colours, with or without printing
Service & Logistics.

Which drum ideally complies with the precise specifications of your supply chain? We will be happy to advise you and supply the optimum product solution and perfectly coordinated delivery logistics to ensure smooth, continuous processes in your production chain.

Our Technical Customer Service provides broad technical expertise and customer support, including:

- Product choice and optimisation
- Questions about compatibility for filling products / hazardous goods
- Topics such as compatibility with automated lines, hot filling, etc.
- Specification management
- Questions concerning handling, transport and load securing
- Supply chain management
We support your in-house processes with individual loading plans and load securing measures specially tailored to your requirements. We offer a choice of delivery options for our SCHÜTZ drums:
- Truck trailers
- Truck swap trailers
- Railway cars (selected sites only)

The following securing options are available for palleted drums:
- Plastic banding
- Plastic tape
- Stretch film
- Shrink sleeve