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# For each application the suitable tent solution



Lightweight Accommodation Tent Type KF22

Schall has a complete product line of frame supported tents in various designs, for humanitarian application by civil organizations as well as for military applications. From the lightweight accommodation tent to the big functional tent – all tents are designed for all climatic zones and areas of operation. In the following some examples:

### Lightweight Accommodation Tent Type KF22

- Surface area 25 m<sup>2</sup>
- Basic unit only 100 kg
- Assembly by 2 persons
- Accommodation for up to 8 persons

### Multi-Purpose-Tent Type EHZ II

- Multi-functional tent for accommodation, command post or mobile medical station
- Surface area 43 m<sup>2</sup>
- Two-coloured, turnable outside cover
- Modular design, extendable in longitudinal direction



Multi-Purpose-Tent Type EHZ II

### Functional Tents

- Application as service tent, command post or J.O.C.
- Designed for 150 and 300 persons
- Surface area 180 or 360 m<sup>2</sup>
- With tarpaulins or alternatively rigid, insulated walls
- Extendable in steps of 3 m up to a total length of 180 m

### Hangar Tents

- or vehicles and aircrafts with a self-supporting width of max. 50 m
- Various gate types available
- Designed for high wind loads (up to 180 km/h)
- and high snow loads (up to 150 kg/m<sup>2</sup>)



Storage Tents with rolling shutter gates in Afghanistan



Field Camp with Multi-Purpose Tents and Functional Tents in Chad



# Frame Supported Tents



*Hangar Tent with electrically driven gable and docked workshop container*

## Accessories

- A wide range of accessories is available for each tent type, e.g. rigid floor, air conditioning, lighting, CBRN-protection, furniture, insulation technology, renewable energies, sun protection etc.



*Hangar Tents for fighter jets*



*Service Tent, 300 person-design, with rigid outside walls and sun roof*



*Hangar Tent for helicopter*



# Air Supported Tents



*Air Supported Tent type LGZ*

## Air Supported Tents type LGZ

... are the ideal tents for high-mobile and rapid operations. The Air Supported Tents can be used, for example, as accommodation, first-aid or command tent.

- Can be applied flexible due to low weight and short assembly time (with 1-2 persons)
- Suitable for all climatic zones
- Tent without framework, with inner air bead system
- Designed for high wind- and snow loads
- Available in various standard dimensions
- Endlessly extendable system; can be docked with sluices to containers, room modules etc.



*Air Supported Tents type LGZ, connected at the gables and the side walls*

## Accessories

- A wide range of accessories is available for each tent type, e.g. rigid floor, air conditioning, lighting, CBRN-protection, furniture, insulation technology, renewable energies, sun protection etc.
- Weather-protected docking to vehicles and all Schall tent types available



*Air Supported Tents in connected position*



### Permanent Air Supported Tents for an extremely rapid assembly

#### Air Supported Tent type LGZ light

- Lightweight tent for applications with low reaction time
- Available in various colours and designs
- Assembly time: 3-4 minutes

#### Permanent Air Supported Tent type PGZ

- Extreme lightweight tent for applications with low reaction time
- Available in various colours and designs
- Assembly time: 3-4 minutes
- Equipped with permanent blower unit
- High insulation capacity



*Air Supported Tent type LGZ  
light lightweight design, e.g. for  
civil protection*



*Permanent Air Supported Tent  
type PGZ*



*In case of a long-time operation, an aluminum framework can be installed to the tent without interrupting the inside operation. An additional sun roof offers increased comfort and insulating properties.*



## Containers and Cabins (Shelter)



20' x 8' x 8' functional container

Functional containers according to ISO standard, expandable containers ISO 20', multifunctional containers (MuFuCo) ISO 20' and cabins (shelter) with individual dimensions, as mobile working rooms for worldwide application in the temperature range from - 40°C to +55°C according to AECTP 200/STANAG 2895.

- Various kinds of application, e.g. medical working rooms, labs, communication systems, IT-working rooms, command posts, ground operating stations, radar systems etc.
- Modular design based on our military proven standard components, adaptable to the individual requirements
- Systems designed for operation on the ground as well as on a carrier vehicle/truck
- Scope of delivery from empty to complete functional systems with self-contained power supply, air-conditioning, interior work/fitting.
- Optionally equipped with CBRN-protection (AEP 54), ballistic protection (level 1-3 according to STANAG 4569/AEP 55), EMC/EMP protection [IEEE Std. 299 (MIL-Std 285), VG 95370 T15]. Overpressure-tight design  $\geq 3,5$  hPa at 120 m<sup>3</sup>/h



Shelter for mobile radar systems



Expandable container type 1:3

### Schall-Container-Systems "SCS" according to ISO 668 and 1496

- Lightweight series in aluminum-sandwich design with restricted CSC-approval
- Heavy series in insulated steel design with full CSC-approval
- Combined series with basic module in welded steel design, walls in sandwich-design, with full CSC-approval.

Schall Expandable Containers "SEC" in aluminum/steel hybrid design, expandable single or double sided (1:2 or 1:3), length 20' according to ISO 668, with full CSC-approval.

Multifunctional Container "MuFuCo", ISO 20', with integrated hook-lift frame according to DIN 14505, 30722-T2 as well as STANAG 2413, in aluminum/steel hybrid design or insulated steel design, with full CSC-approval.

Schall Cabin Systems "SKS" (Shelter) in sandwich design with high-strength frame system and aluminum ISO corners.

Doors, flaps and service cutouts (e.g. connecting boxes) are made of our proven standard components, position and dimension adaptable to individual requirements.

Mounting possibilities by integrated reinforcements or C-rails according to NATO standard.



*Expandable container type 1:3, for mobile CT-application*



*Interior view container 1:3 with CT equipment*



*Interior fitting as mobile ground control station for UAV (Drohne)*



# Tactical operative systems



*Trailer with drawing vehicle as external cargo*

Tactical operative systems have to form rapid deployable, self-contained units that can be applied worldwide with minor logistic demand.

These units are stored on trailers, trucks or in containers and offer a complete, tough-minded solution due to their own power supply, air conditioning and protection systems (CBRN-, ballistic- and EMC-protection).



*Trailer with drawing vehicle*



*Accommodation trailer for 24 persons with connected tents type LGZ*



*Mobile Rescue Centre*



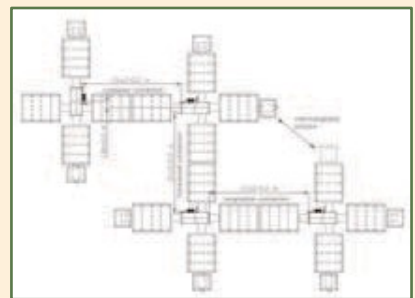
Rapid Deployment System with power supply, air conditioning, CBRN-protection and a total working area of more than 200 m<sup>2</sup>, stored in one container.



Operating theatre

**High-mobile turnkey system consisting of:**

- Working area of up to 200 m<sup>2</sup>
- 20'-container
- Up to 4 Air Supported Tents type LGZ
- CBRN-protection incl. filtration units
- Air conditioning
- Power generator (up to 65 kVA)
- Endlessly coupleable



Layout of a connection of several Rapid Deployment Systems



Truck-version of a medical rescue centre



RDS on a transport vehicle



# Interconnection of tent- and container modules ...





## ...for international missions

For all kinds of application, we offer high-mobile and semi-mobile tent- and container solutions equipped with the latest technology in terms of materials and protection systems. Based on our own engineering and development department and together with our long-time partners, we have the ability to react to all customers requirements and to meet each tactical requirement of the international missions within shortest time with appropriate solutions and products.

Our Logistic Centre keeps - based on maintenance and repair-contracts. All military spare parts and materials on stock for our service team which is trained for worldwide operations, also in conflict areas.

The Schall Team guarantees to its customers quick and effective reaction, high-quality products and highest efficiency as well as system solutions which are certified and approved for worldwide application.





# CBRN Protection and Decontamination



Connection of protected working areas



Interior view of a pressure-controlled passage

## CBRN Protection

The CBRN Protection Systems can be applied at all climatic conditions and offer optimal and constant working conditions to the user and for the equipment.

Various material layers are combined to a multi-layer cover which includes various material properties and which is thus resistant against all known military and civil gases/fluids. Working areas which protect person and equipment against all environmental influences (like dust, moisture, noise etc.) are obtained due to a mechanical pressure-control system combined with a gastight air conditioning-/ heating-system as well as the cyclone-filter technology with micro filters, for use as IT, medical or tactical systems. Not only the individual components, but also the complete systems are approved and certified according to the known military requirements.

Low packing volume and short assembly times guarantee a rapid application with minor logistic preparation.

## The Colpro (Collective protection) system consists of:

- Entrance sluices: Multi-Stage-Airlock, Personal Airlock, Stretcher/ Equipment Airlock or Container Airlock
- Overpressure-control unit
- Protected working area
- CBRN-filtration-unit with cyclone filter and fine particle filter
- Gastight air conditioning unit with combined diesel heater
- Pressure control system (individually adjustable)



Exterior view of a CBRN-protected Role 1 / Role 2 Hospital



## ...as completion for tents and containers

### Decontamination

For the decontamination of persons, our tents are equipped with an internal fluid resistant liner system which can be decontaminated separately and which protects the tent structure against contamination. It can be extended to a multi-step decontamination area and equipped with decontamination devices, e.g. for patient decontamination (horizontal/upright).

Depending on the requirements, stations are operated with over- or under pressure.



Decontamination station



Interior view of a Decont Tent



Decontamination of wounded persons



Surgery area of clean room class 1b



# Sluice Systems



*Sluice connection Tent – Container which is operated on a vehicle*

## Connecting Sluices

Sluice systems connect tents, vehicles, containers and buildings to complex units, forming a perfect weather protection against all environmental conditions worldwide.

These systems can optionally be equipped with an insulating, decontamination-resistant and CBRN-tight inner cabin.



*Operation command centre with connected Air Supported Tent type LGZ light*



*Mobile Command Post*



*Sluice connection Tent – Container*



*CBRN protected sluce system: vehicle body to Air Supported Tent Type LGZ*

# Sun protection and camouflage systems

## Sun protection systems

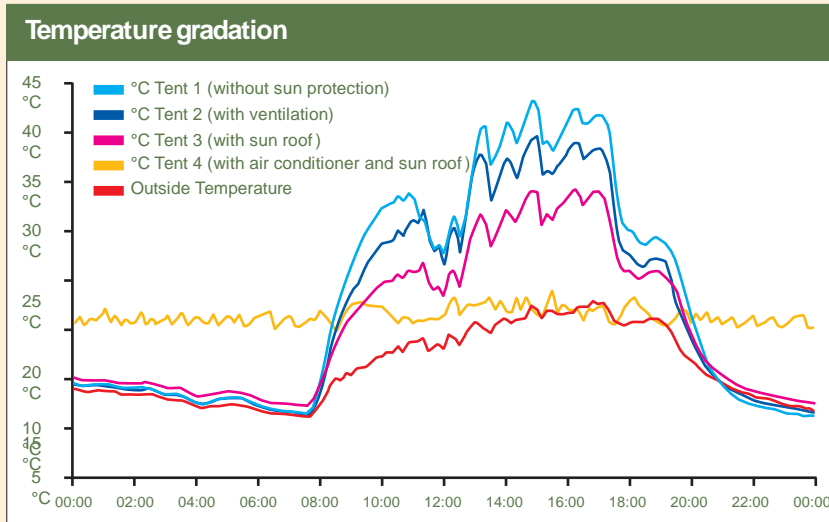
The heat development by solar radiation inside the working rooms is significantly reduced by sun protection systems for tents and containers. Persons can work more comfortable and sensible equipment (e.g. IT hardware) is better prevented from damage. In case air conditioners are applied, a sun roof will reduce energy consumption and improve efficiency considerably.

## Camouflage systems

Mobile camouflage systems consist of an air supported structure, easily and rapidly to install. They have a low transport volume and are free-standing. Vehicles can therefore drive out without the need to remove the camouflage net.



Sun roofs mounted to the Multi Purpose Tents Type EHZ II

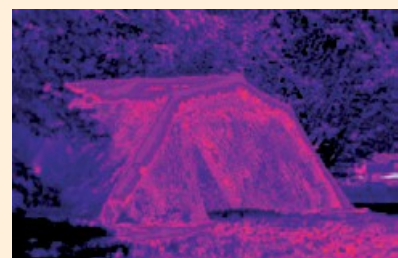


Sun roofs for interconnected 20'-containers and tents

Field tests have shown that our sun protection systems (sun roofs), mounted on a tent, will offer a heat reduction of approx. 9°C.



Inflatable supporting structure with camouflage nets to disguise vehicles



Infrared picture of a vehicle camouflage shelter



# Transport solutions



*UTP on Trailer*

## UTP Universal Transport Pallet

The Universal Transport Pallet UTP was developed as transport concept for high-mobile field camps and designed for transport in aircrafts (e.g. CH 53, C160). The UTP can be loaded by optional lifting device to customized trailers. It can also be moved manually by an own ground wheel system. Loose general cargo as well as rigid installations can be fixed and transported on the UTP.

### Accessories:

- Height adjustable weatherproof cover
- Alu/steel framed tarpaulin cover
- Set of lifting device
- Trailer
- Cargo net
- Adaptable ground wheel system



*UTP with height adjustable weather-proof cover*



*UTP with rigid installation while moving into Air Supported Tent type LGZ*



*UTP (with installed ground wheel system) during loading procedure into CH53 aircraft*

### ZeBoCo – Tent Floor Container

The Tent Floor Container “ZeBoCo” is a multifunctional packing unit which has been especially designed for packing, storing and transporting tents, accessories and equipment. The outside walls of the ZeBoCo can be removed and used as rigid tent floor. The remaining steel frame can be folded up in a space saving way. The ZeBoCo is suitable for transport on roads, on rail and by air.

### Container storage concepts

On demand, we design/develop storage concepts adapted to our products, to guarantee a safe transport, containing for example transport boxes, grid boxes, packaging bags, for storage in 20'-freight containers.



*ZeBoCo with medical equipment for medical service*



*Storing a tent (150 person design) in a 20'-container*



*ZeBoCo loading procedure into CH53 aircraft*



*ZeBoCo stored on a transport vehicle (Mungo)*



# Ballistic protection and EMC



Certification tests of ballistic layer systems

## Ballistic protection

Our systems can be equipped on demand with ballistic protection according to customer's requirements. Furthermore, almost all systems can be upgraded later with modular ballistic-protection sets.

Certified according to:

- STANAG 4569/AEP55
- STANAG 2280



System measurement in absorber hall

## EMC

In cooperation with accredited measurement institutes, our systems can be measured and verified according to the valid standards, e.g.

- IEEE-Std 299 (MIL-Std 285)
- VG 95370 T15
- MIL-Std 461



Container 1:2 DUO – with EMC, ballistic- and CBRN protection

## Product tests at extreme conditions

### Examples for product tests at extreme conditions

Official testing institutes, our customers as well as ourselves carry out product tests at real conditions according to the requirements.



*Test of war gas resistance of a CBRN protected hospital*



*Air Supported Tent Type LGZ tested more than 8 months on an ice floe in the Arctic Ocean*



*LGZ Winter Test in the North of Sweden*



*Container on CSC test facility*



*Wind load test by the German Forces at a frame supported Tent type KF22*



*Water jet test*



# M.Schall GmbH & Co. KG



Profile processing centre



Large scale/format laser system



High-frequency welding plants



Container production line



Production area for element construction

## Facts

Year of foundation:	1956 by Matthias Schall
CEO:	Markus Schall
Employees:	approx. 120
Location:	Merzenich, district of Düren, Germany

## Business activities

The Schall company offers the complete range of products for mobile working rooms, incl. the conceptual design, production and supply of tents, functional containers and complete systems for military and civil application.

## Military product range:

- Complete systems
- Air supported tents
- Frame supported tents
- Functional containers
- Accessories
- Engineering support

## Civil range of products:

- Tailoring of technical textiles
- Forklift truck cabins
- Party tents and tents for special events
- Decorations
- Special designs

## Further data:

From the first idea to the turnkey product: all is developed and produced in our manufacturing facility at Merzenich. The Schall products are therefore completely "Made in Germany".

Due to a continuous development of our products and the use of high-quality materials, we guarantee that our products meet all customer's requirements for worldwide operation. Our design department works with current 3D design-software, supporting our engineers and guaranteeing the data transfer with our customers. Our production areas are equipped with a modern train of machines which is extended continuously.

Our company is certified according to ISO 9001:2008





# Administration- and production facilities at Merzenich-Girbelsrath

Total area: 37.000 m<sup>2</sup> | Production area: 8.500 m<sup>2</sup> | Storage area: 3.500 m<sup>2</sup>



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