

German Technology, Precision Installation.

Founded in 2019 through a strategic brand and technology transfer from Germany's KALM (www.kalm.de), AKALM (www.akalm.com) leverages this strong heritage to locally engineer and manufacture advanced building solutions in China.

Marking an evolution from professional manufacturing to a dedicated focus on the AKALM brand, our products consistently meet the highest German standards for quality, reliability, and safety. Our field engineers and sales team partner with you throughout every project phase – from conceptual planning to final implementation – co-creating optimized, customized solutions.

Our Purpose:  
Making Installation Better.



## AIT Anchor System

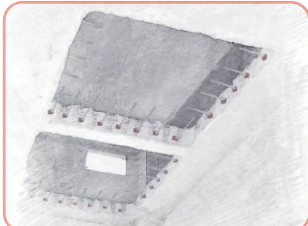
German Technology

Making Installation Better

### Introduction to AIT-Anchor System

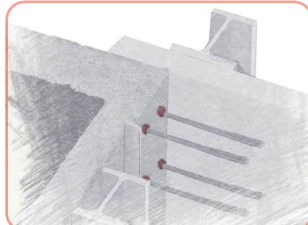
| Application                                                                           | Base Material                                                                                                                                                                                                                                   | International Approvals                                                                                                     | Anchor Type                                                                                                                                                                            | Benefits                                                                                                                                                                                                                                                                 | Anchor Size                               | Specifications                                                                                                                                                                         |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chemical anchor selector</b><br><small>Application on Concrete Substrate</small>   | <div> <div>Grouted Concrete</div> <div>Reinforced Concrete</div> <div>Lightweight Concrete</div> <div>Pre-stressed Concrete</div> <div>Self-healing Concrete</div> <div>High-strength Concrete</div> <div>Highly alkaline concrete</div> </div> | <div> <div>ETB</div> <div>ETAG</div> <div>ETAG</div> <div>ETAG</div> <div>ETAG</div> <div>ETAG</div> <div>ETAG</div> </div> | <div> <div>Standard</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> </div> |                                                                                                                                                                                                                                                                          |                                           | <div> <div>Standard</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> <div>High strength</div> </div> |
| High-Strength Epoxy Anchoring Adhesive AIT-VMK-SF                                     | ●●●●                                                                                                                                                                                                                                            | ●●●●                                                                                                                        | <div> <div>AKALM</div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                        | <ul style="list-style-type: none"> <li>High bonding capacity</li> <li>Suitable for large diameter post-installed rebars</li> <li>Suitable for dry and wet concrete applications</li> <li>ETA Approval for 100 years working life</li> </ul>                              | M6-M30                                    | ●●●●●●●●                                                                                                                                                                               |
| Injection hybrid mortar AIT-VMK-SF                                                    | ●●●●                                                                                                                                                                                                                                            | ●●●●                                                                                                                        | <div> <div>AKALM</div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                        | <ul style="list-style-type: none"> <li>High-performance fast-curing solution</li> <li>ETA Approval for damp hole</li> <li>Safe and Non-Toxic</li> </ul>                                                                                                                  | Controlled M12-M24<br>Threaded rod M6-M30 | ●●●●●●●●                                                                                                                                                                               |
| Chemical anchor capsule AIT-VMK                                                       | ●                                                                                                                                                                                                                                               | ●●●●                                                                                                                        | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>ETA Approval for damp hole</li> <li>Fast, simple and safe installation</li> <li>UV-protective glass tube packaging</li> </ul>                                                                                                     | M6-M30                                    | ●●●●●●●●                                                                                                                                                                               |
| <b>Application for Special Substrates</b>                                             |                                                                                                                                                                                                                                                 |                                                                                                                             |                                                                                                                                                                                        |                                                                                                                                                                                                                                                                          |                                           |                                                                                                                                                                                        |
| Anchorage on masonry                                                                  | ●●●●●                                                                                                                                                                                                                                           | ●                                                                                                                           | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>Styrene-free &amp; odorless</li> <li>Plasticizer-free</li> </ul>                                                                                                                                                                  | M6-M30                                    | ●●●●●●●●                                                                                                                                                                               |
| <b>Mechanical anchor selector</b><br><small>Application on Concrete Substrate</small> |                                                                                                                                                                                                                                                 |                                                                                                                             |                                                                                                                                                                                        |                                                                                                                                                                                                                                                                          |                                           |                                                                                                                                                                                        |
| RSK Heavy duty expansion anchor                                                       | ●●                                                                                                                                                                                                                                              | ●●                                                                                                                          | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>High tensile and shear load capacity, suitable for heavy-duty technology</li> <li>Top shear performance due to high strength expansion and shear sleeves</li> <li>Integrated elastic section to minimize self-drilling</li> </ul> | M8-M24                                    | ●●●●●●●●                                                                                                                                                                               |
| RSK Undercut anchor                                                                   | ●●                                                                                                                                                                                                                                              | ●●                                                                                                                          | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>Minimum edge and spacing distance</li> <li>Product and high identification mark facilitates quality control and inspection</li> <li>Certified for chemical resistance for various applications</li> </ul>                         | M8-M16                                    | ●●●●●●●●                                                                                                                                                                               |
| RSD Wedge anchor                                                                      | ●●                                                                                                                                                                                                                                              | ●●                                                                                                                          | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>High resistance for reduced member thickness, short spacing and edge distance</li> <li>ETA approval for cracked and non-cracked concrete</li> <li>Perfect for through holes</li> </ul>                                            | M6-M20                                    | ●●●●●●●●                                                                                                                                                                               |
| RSD Screw anchor                                                                      | ●●                                                                                                                                                                                                                                              | ●●                                                                                                                          | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>Small edge and spacing distance</li> <li>High productivity</li> <li>Easy to install and lower operation than with conventional anchors</li> </ul>                                                                                 | M8-M16                                    | ●●●●●●●●                                                                                                                                                                               |
| SAK Drop-in anchor                                                                    | ●                                                                                                                                                                                                                                               | ○                                                                                                                           | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>Suitable for cracks and drilled holes in masonry</li> <li>Low setting depth reduces drilling time</li> <li>More cost-efficient installation</li> </ul>                                                                            | M6-M16                                    | ●●●●●●●●                                                                                                                                                                               |
| RSK Through-hole sleeve anchor                                                        | ●                                                                                                                                                                                                                                               | ○                                                                                                                           | <div> <div>AKALM</div> <div>AKALM</div> </div>                                                                                                                                         | <ul style="list-style-type: none"> <li>Quick and easy installation</li> <li>Removable design</li> <li>Cost-effective anchor</li> </ul>                                                                                                                                   | M6-M16                                    | ●●●●●●●●                                                                                                                                                                               |

### Application Examples of Rebar Planting



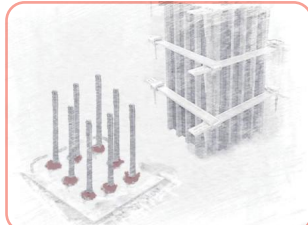
**Floor slab connection**

- Intermediate floor slabs
- Structural alterations
- Reinforce temporary openings, e.g. cranes, debris removal
- simplification of wall form work
- flexibility of construction methods
- unobstructed temporary openings
- reduced risk of reinforcement damage



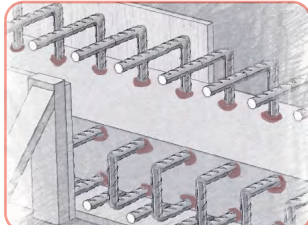
**Wall and beam connections**

- Construction joints
- Structural extension
- Horizontal starter bars
- simplified handling of form work
- reinforcement continuity
- small drill hole dimensions



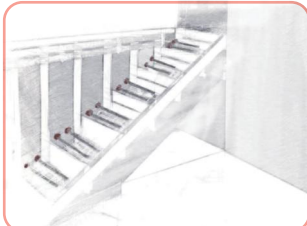
**Vertical connections**

- New columns, piers
- Structural enhancement
- Pile caps
- accurate location
- no complex reinforcement fixing
- unobstructed site access



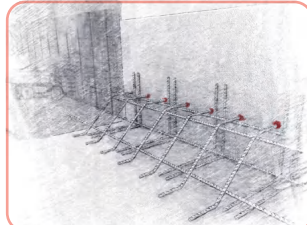
**Major structural repair**

- bridge parapet renovation
- Structural upgrading
- Concrete remedial works
- parapet renovation
- reduced concrete removal
- avoid reinforcement welding
- or similar connections
- overhead installation



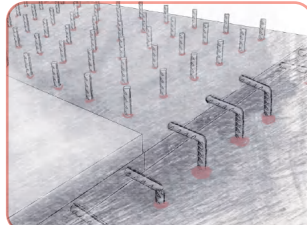
**Structural connections**

- Staircases
- Manholes
- Carabids
- accurate location of starter bars
- allow complex details
- simplified wall formwork and joint preparation
- adobe free for confined space working



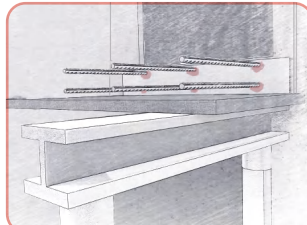
**Retaining walls**

- Diaphragm walls
- Connecting walls
- Curtain walls
- easy application
- small diameter drill holes
- connection of bent and hooked bars



**Concrete overlay**

- Bridge deck renovation
- Structural bonding across composite interfaces
- Structural upgrading of slabs and beams
- rapid serial application
- small hole dimensions
- quick curing



**Cantilever connections**

- balcony
- Access platforms
- Landings
- negligible displacement
- deformed bar fixing
- high confidence - equivalent to cast-in
- short rebar exposure avoids rust staining

### AIT-VMK-SF 380 Fast-Curing Vinyl Ester Adhesive

Akalm AIT-VMK-SF 380 is a fast-curing, two-component vinyl ester adhesive for post-installed rebar and anchoring in both concrete and masonry. This formulation ensures:

- Reliability:**
- High-strength anchoring performance even under harsh conditions
  - Low material shrinkage and fast-curing reaction
  - Post-installed rebars perform like cast-in connections

#### Convenience:

- Low injection force, facilitating quick and smooth work
- A variety of injection guns available to meet different needs
- Odorless

#### Notes:

- All specified time intervals are measured from the initial mixing of the gel (through static mixer)
- During application, the temperature of the cartridge should be between +5°C and 25°C

#### Working time and Curing Time

| Substrate Temperature [°C] | Working Time [min] | Curing Time [min] |
|----------------------------|--------------------|-------------------|
| 0-5                        | 25                 | 180               |
| 5-20                       | 12                 | 90                |
| 20-30                      | 4                  | 45                |
| 30-40                      | 3                  | 25                |
| >40                        | 2                  | 15                |

\* In wet base material the curing time must be doubled

For more information, please refer to the ETA verification.



### AIT-VMK-RE 585 High-Strength Epoxy Anchoring Adhesive

Akalm AIT-VMK-RE 585 is a high-strength modified epoxy resin adhesive suitable for anchor bolt and rebar planting applications. Its innovative formulation ensures:

- Reliability:**
- Extremely high load-bearing capacity across various diameter ranges (8 to 32mm)
  - ETA assessment for anchoring in C1 and C2 seismic and ETA for rebar in fire and seismic
  - Negligible shrinkage
  - easy application
  - Suitable for hammer-drilled and water-saturated holes
  - Low sensitivity to large-sized and moist holes

#### Convenience:

- Low injection force enables rapid and smooth operation
- Compatible with various injection guns to meet different application needs
- Odorless anchor gel formulation

#### Notes:

- All specified time intervals are measured from the initial mixing of the gel (through static mixer)
- During application, the temperature of the cartridge should be between +5°C and 25°C

#### Working time and Curing Time

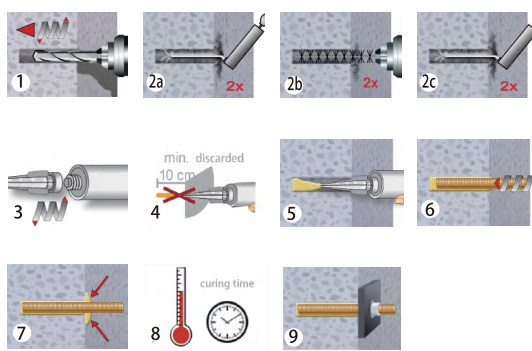
| Substrate Temperature [°C] | Working Time [min] | Curing Time [hrs] |
|----------------------------|--------------------|-------------------|
| -5 to +1                   | 240                | 200               |
| +2 to +4                   | 150                | 90                |
| +5 to +9                   | 120                | 40                |
| +10 to +19                 | 30                 | 18                |
| +20 to +29                 | 14                 | 10                |
| +30 to +40                 | 7                  | 5                 |

\* In wet base material the curing time must be doubled

For more information, please refer to the ETA verification.



### Application steps of anchoring adhesives



#### Chemical Anchoring Adhesives

#### Dispensing tool

| Fast-Curing Vinyl Ester Adhesive Akalm AIT-VMK-SF380 | High-Strength Epoxy Anchoring Adhesive Akalm AIT-VMK-RE 585 | Dispensing tool |
|------------------------------------------------------|-------------------------------------------------------------|-----------------|
|                                                      |                                                             |                 |
|                                                      |                                                             |                 |
|                                                      |                                                             |                 |
| 150ml/245ml/280ml<br>ETA -20/0427                    | 385ml/585ml<br>ETA -23/0110<br>ETA -23/0111                 |                 |



### Technical Support

- Anchor Selection
- Design calculation of anchoring connections
- Rapid assistance and necessary on-site guidance
- Continuous training & knowledge transfer
- Field pull-out test



### Professional Solutions

- Analyze the application
- Preliminary anchor selection
- Calculation & verification
- Punctual delivery
- Technical handover
- Installation guidance



### Our Advantages

- German-originated formulation & processes
- Professional anchorage design software
- Advanced in-house testing laboratory
- Comprehensive application coverage
- Reliable quality control system
- Competitive pricing



## Chemical Andors

[illegible]

## Anchor Rods

[illegible]

## Metal Anchors

[illegible]

## Metal Anchors

[illegible]

## Consulting & Fixing Tools

[illegible]