ROBACERAM
Transport, Mounting and Operation Instructions

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1. **Shipment and Packaging**

1.1. ROBACERAM - elements consisting of an FRP base profile covered with a ceramic surface consisting of single segments. To avoid damage ROBACERAM elements have to be handled with care.

1.2. ROBACERAM – elements have to be packed only in wooden cases of sufficient stability. Each ROBACERAM – element has to be packed separately. If multiple elements will be packed in one case they have to be separated and fixed by elastic layers.

1.3. On arrival the transport case has to be put close to the place of installation. On transport by forklift of cases longer than 6,5 m they have to be supported in distance of 3 m. Crane slings may not be fixed in the middle of a case. They have to be applied at the end of the case. Cases longer than 6,5 m require several slings. Mechanical mistreatment and dropping has to be avoided.

1.4. After ROBACERAM elements have been exposed to extreme cold they must not be unpacked before content has taken room temperature.

2. **Transport**

2.1 On handling ROBACERAM elements outside its installation position generally, every deflection has to be avoided. ROBACERAM elements especially must not be stressed on tension, because it would lead to damage of the gluing of FRP base body and ceramic chain, which can cause damage on the wires and the felts.

2.2. ROBACERAM – elements have to be picked up simultaneously by two persons on both ends and must not be picked up by one person in the middle of the element. Elements longer than 6.5 m have to be additionally supported on transport.

   **NOTE:** During transport the ceramic surface must be directed upwards at all times and must never be turned around to face downwards. When carried, vibrations must be avoided.

2.3. Elements have to be picked up one by one from the packaging, and if they are elements longer than 3 m, by minimum two persons, in a way the ceramic surface is directed upwards. After placing them on a stiff and straight base, they have to be controlled for damage in transit, especially for tears, cracks and breaks.
3. Mounting

3.1. ROBACERAM elements fastened by means of T-bars or dovetails profiles:

3.1.1. The T-bars or dovetail profiles must be cleaned before mounting ROBACERAM elements. Afterwards the profiles have to be controlled on their straightness, practically by using a fine ruler or a thin cord. To simplify mounting, the T-bars or dovetail profiles must be treated with a lubrication spray, a mounting paste or similar agents (soft soap).

3.1.2. ROBACERAM elements have to be put on a rigid support (blank) in the corresponding position of mounting. The elements have to be lifted by means of this support until they are aligned with T-bars or dovetail profiles. They have to be pushed in slowly. If the elements fit in the supports snugly and slide in without undue resistance, the fitting and mounting is correct and successful.

3.1.3. ROBACERAM – elements must not be mounted by force or moved laterally during sliding in or out operations

NOTE: ROBACERAM - elements must be partially supported during sliding in or out operations and must not hang unsupported.

3.1.4. After mounting, ROBACERAM elements must be checked for damage.

3.2. ROBACERAM elements mounted by ROBACLAMP

3.2.1. Content of paragraphs 3.1 is valid. Treatment with lubrication agents as described is not necessary. After sliding in, clamping may be applied by pressuring the tubes.

3.3. ROBACERAM Suction box covers

3.3.1. Content of paragraphs 3.1 and 3.2 is valid.

3.4. ROBACERAM – elements in vertical operation positions (hanging installation)

3.4.1. In principle paragraphs 3.1. and paragraph 3.2. have to be observed.

3.5. End deckle

3.5.1 End deckles have to be adapted in a way, that height of end deckles must not exceed level of ceramic surface and the adjusted suction zone is fixed and sealed well.
4. Operation

4.1. During operation, ROBACERAM – elements have to be protected against mechanical and thermal shock and have to be handled with care. Walking on the ceramic elements or dropping of tools and other objects can lead to cracks or breaks of the ceramic surfaces. The frames or foil boxes or other supports on which ceramic elements are mounted must be rigid enough to prevent vibration in operation. It is important that ROBACERAM suction box covers are supported by cross structures reaching up to the underside of the cover (every 200 mm).

4.2. The operation temperature must not exceed 90°C. Dry running has to be avoided. On positions operating with higher vacuum and higher dryness, dry running for a few minutes can already cause temperatures above 400°C. This would lead to damage on ROBACERAM elements and wire. Thermal shocks have to be avoided (spraying of the hot elements with cold water immediately after a machine shut down).

5. Cleaning

5.1 On cleaning ROBACERAM elements, the solvents and agent seen in the following table must not be used. Usage of these substances can lead to damage on ROBACERAM elements.

| Formic acid ( > 30 % per weight) |
| Sulfuric acid ( > 30 % per weight) |
| Ethylacetat |
| Trichlorethylen or similar solvents |
| Tetrachlorcarbon |
| Ammonia (> 5% per weight) |
| Calciumhydroxid |
| Sodiumhydroxid (> 10 % per weight) |
| Chloroform or similar solvents |

Table 1: Agents against which ROBACERAM – elements are not resistant!
6. Dismanteling

- Before dismantling ROBACERAM elements, its surrounding has to be cleaned (see paragraph 5).

- Mounting screws and mounting lists have to be loosened before dismantling.

- Dismantling of ROBACERAM elements has to be done without applying excessive force.

- For dismantling tooling like block and tackle are suggested. Dismantling should be done with constant force and velocity.

- During dismantling free hanging ROBACERAM elements have to be supported by blanks or similar lists. This support has to be fixed at the same height levels as the mounting profiles to avoid deflection of ROBACERAM elements.

- ROBACERAM – elements must be partially supported during sliding in or out operations and must not hang unsupported.

- After dismantling and before installation ROBACERAM elements have to be controlled for breaks, crack, tears or other damages. If necessary LERIPA PROFESSIONALS will repair the elements on your demand.