

## SPECIAL DETAILS

### HOSE ASSEMBLIES ABR AVON

Parts of the hose assemblies are the hose and the couplings.

Depending on the application, hoses may have just one or both coupled ends.

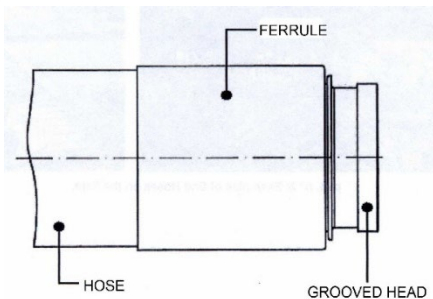


end hose



end hose in use

### COUPLINGS



End couplings are made of hardened carbon steel.

The “full flow” swaging on procedure provides a low resistance to flowing of concrete during working operations.

### IDENTIFICATION MARKING

A continuous spiral red brand through all the length of the hose identifies the maximum working pressure [bar and psi].

An engraved marking on the ferrule identifies batch number and year of production.



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### MAINTENANCE AND INSTRUCTIONS FOR THE CORRECT USE

#### Inspection.

Both prior to and during usage, we suggest that regular controls are carried out on the rubber tube and on the fittings by an adequately prepared staff person.

The controls to make on the rubber are necessary to verify any anomalies, such as:

- the condition of internal abrasion;
- the separation of the ferrule from the tube;
- the presence of bubbles, cuts, or abraded areas that may indicate a break in the reinforcement layers;
- the presence of old concrete on the inside.

On the fittings, the controls are to verify:

- any breaks, dents, holes or deformations of the components;
- presence of old concrete especially on the inside the gasket cavity that can preclude its use;
- that the fittings don't show abrasion/erosion signs.

#### Instruction.

Periodically it is necessary to reverse the two ends, creating a progressive rotation of the hose of 180° on its own axis.

The degree of erosion or abrasion of the assembled length is proportional to the speed and the quantity of the flow and to the type/granulometry of the material conveyed. The bending of the assembled length influences the effects caused by the abrasion of the material: a reduced bending radius favors the abrasion of the tube, reducing consequently the duration of the product.

#### Cleaning.

The assembly must be cleaned after every use with the correct equipment. We suggest carrying out the cleaning operation by sucking a sponge ball from one end to the other.

Compressed air must not be used for the cleaning.

**An incorrect cleaning of the hose could generate occlusions of concrete with possible risks for employees.**

For SAFETY REQUIREMENTS refers to UNI EN 12001 specification: "Conveying, spraying and placing machines for concrete and mortar -Safety requirements."

#### Storage

**Recommendation for correct storage** - Rubber is subject, by nature, to change in physical properties. These changes, which normally occur over the course of time, according to the kind of rubber used, can be accelerated by one particular factor or by a combination of these. Reinforcement materials are also adversely affected by unsuitable conditions of storage. The following recommendations give some precautions to be taken to ensure the minimum deterioration to stored articles.

**Storage life** - Storage time should be reduced to the minimum through programmed rotation. When it is not possible to avoid long term storage, it is necessary that the user, as indicated in ISO 8331, carries out a complete check of the hose before its use according to the following criteria:

- maximum two years storage for assembly;
- maximum four years storage for hoses.

**Temperature and humidity** - The best temperature for the storage of rubber hoses varies from 10 to 25 degrees centigrade. Hoses should not be stored at temperature above 40°C or below 0°C. When the temperature is below -15°C it is necessary to take precautions when handling. Hoses should not be stored near sources of heat nor in conditions of high or low humidity. A humidity level of a maximum of 65% is recommended.

**Light** - Hoses must be stored in dark places, avoiding direct sun light or strong artificial light. Should storerooms have windows or glass openings, these must be screened with suitable filters.

**Oxygen and ozone** - Hoses should be protected from circulating air by suitable packing or by storage in air-tight containers. As ozone has a particularly aggressive action on all rubber products, the store house must not contain material producing ozone like devices under high electrical tension, electric engines or other materials provoking sparks or electric arcs.

**Contact with other materials** - Hoses should not come into contact with solvents, fuels, oils, greases, volatile chemical mixtures, acids, disinfectants, and other organic liquids in general. Furthermore, direct contact with some metals (for example manganese, iron, copper, and its alloys) and relative mixture exercise harmful effects on some types of rubber. Contact with PVC and creosote impregnated timber or fabrics should be avoided.

**Heat sources** - The temperature limits given in point dedicated to temperature and humidity must be respected. When this is impossible, it is necessary to use a thermic shield at a distance not less than one meter.

**Electric or magnetic field** - Variation in electric or magnetic fields must be eliminated in store houses as these could provoke currents in metal coupling, heating them. Similar fields could be caused by high-tension cables or high frequency generators.

**Storage conditions** - Hoses must be stored in a relaxed condition free from tension, compression or other deformation and contact with objects that could pierce or cut must be avoided. It is preferable to store hoses on special shelves or on dry surfaces. Coiled hoses must be stored horizontally avoiding piling. When this is not possible the height of the piles must be such to avoid permanent deformation of hoses stored underneath. The inside diameter of the coil, during the storage, must be such as to not compromise the performances of the products. In particular,

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this diameter must not have value less than those indicated by the manufacturers. It is advisable to avoid storing coiled hoses on poles or hooks. Furthermore, it is advisable to store hoses to be delivered straight, horizontally, without bending.

**Rodents and insects** - Hoses must be protected from rodents and insects. When such a risk is probable adequate precautions must be taken.

**Marking or packaged items** - It is advisable that hoses are always easy to identify even if packed.

**Exit from storage** - Prior to delivery hoses must be checked for integrity and must correspond to the required use. After long storage if couplings are not clipped, swaged or built-in, it is necessary to check that locking collars are tight.

**Return to storage** - Hoses that have been used must be free from all substances prior to storage. Particular attention must be paid when abrasive or similar substances have been conveyed. After cleaning, the hose must be checked for integrity.

**Handling** - Hoses must be moved with care avoiding knocks, dragging over abrasive surfaces and compression. Hoses must not be pulled violently when twisted or knotted. Heavy hoses, normally delivered in a straight line, must be laid on special supports for transport. Should wood supports be used these must not be treated with creosote or painted with substances which could damage the rubber.

**Bending radius** - Installation underneath the minimum bending radius reduces the life of the hose considerably. Moreover, it is necessary to avoid bending at fitting ends.

**Torsion** - Hoses are not manufactured to work in torsion, except for specific purposes.