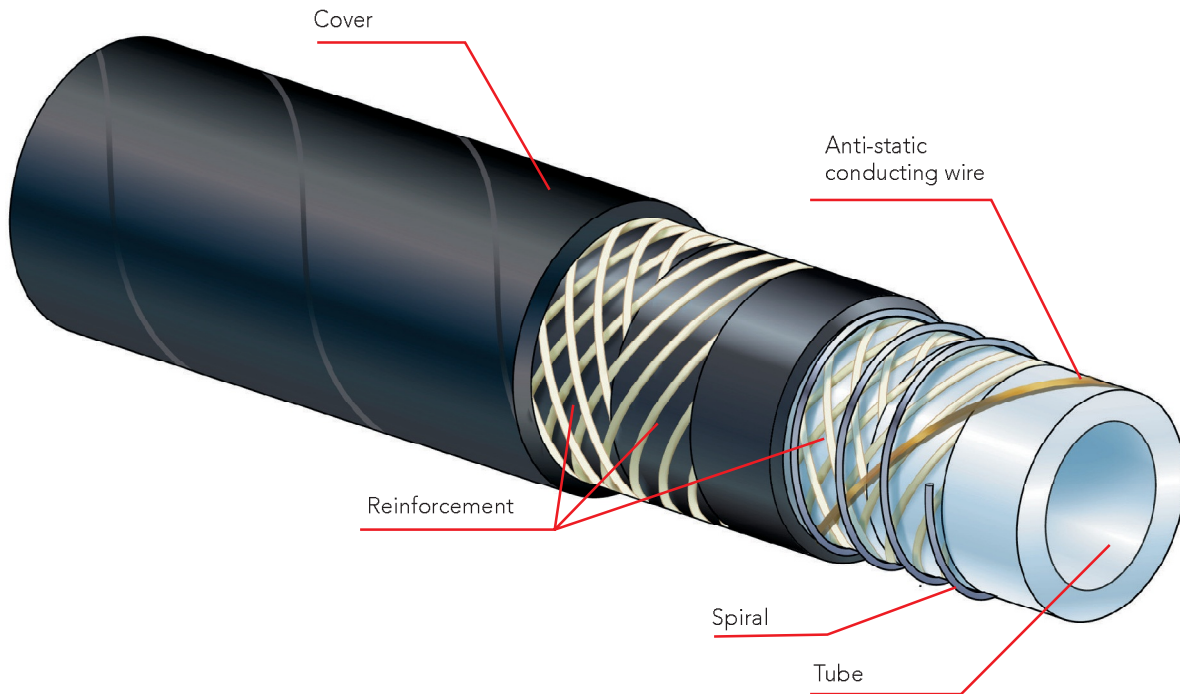


Introduction

A rubber hose is the most used kind of industrial hose. The success is mainly thanks to the many available qualities of rubber. Because of the large variety of synthetic rubber qualities, there is a suitable solution for almost every application. Furthermore, rubber hoses are very flexible and available in a large range of diameters. These hoses have a good price/quality ratio.



Hose manufacturing methods

Based on production method, we can divide the products into mandrel hoses and extruded hoses. Mandrel hoses are produced on a core, onto which the rubber layers and inserts are applied. Before vulcanizing the hose in an autoclave, a wrapping is applied to the hose for the required external pressure. These hoses are recognisable by a fabric impression on the outer surface. The maximum hose length using this method of production is generally 61 metres.

Extruded hoses are generally cheaper, and in principle available in unlimited lengths, as a consequence of the continuous production process. Vulcanization takes place immediately after extrusion, in an autoclave or a salt bath.

Construction of the hose

Rubber hoses consist of an lining, inserts and an cover.

The inner wall of the hose must be resistant to the liquid or the gas that is transported through the hose. One should pay attention to mechanical (resistance to wear), thermal and chemical characteristics and the required impermeability to gas.

The inserts ensure pressure resistance and shape stability of the hose. Fabric or metal threads are often used as insert. Depending on the manner of application, the inserts can be wrapped or braided. Hoses with wrapped thread inserts are generally more pliable, have a greater longitudinal stretch and are less pressure resistant than hoses with braided inserts. In addition, 1 or 2 steel or stainless steel spirals can be used to make the hose vacuum resistant.

The outer wall must be sufficiently resistant to outside influences such as wear, mechanical loading, influence of the weather, temperature, chemicals, oils, etc. The outer wall can be smooth, ribbed, corrugated and/or with fabric impression, depending on the method of production.

Electrical conductivity

Hoses can become statically charged as a result of the medium to be transported or through dragging over the ground. When the potential difference with the earth builds to a high enough level, a discharge can take place. It will be obvious that this can lead to dangerous situations whenever an explosive gas or substance mixture is present. In order to avoid this electrical charge the hose can be provided with a conducting wire that discharges the electrical energy (M-hose). The rubber material of the hose itself can also be conductive (Ohm-hose). Depending on the construction and resistance value of the hose assembly, we can identify the following variants:

Conducting hose, M type	$R < 10^2 \text{ Ohm}$
Conducting hose, Ohm type	$10^3 \text{ Ohm} < R < 10^6 \text{ Ohm}$
Anti-static hose	$10^6 \text{ Ohm} < R < 10^9 \text{ Ohm}$
Insulating hose	$R > 10^9 \text{ Ohm}$

Effects of temperature

The temperatures given are usage temperatures and can differ greatly, depending on the medium. The pressures given apply at a temperature of 20° for the medium and surroundings. At lower or higher temperatures the maximum pressure and vacuum resistance can strongly decrease. Refer to Econosto in these cases.

Bending radius

The minimum bending radius is the radius of the smallest possible circle around which a hose may be bent without kinking. The bending radius is dependent on the construction of the hose and is generally 5 to 10 times the inside diameter of the hose. Account should be taken of a greater bending radius for abrasive media, and at higher temperatures.

Fitting, testing and certification

Hoses can be professionally assembled and tested in our well equipped workshop. For our standard range of couplings, please refer to the section Hose Couplings and Accessories. The hose assembly can be provided with a unique test number and test certificate on request. The test numbers are stored and kept up to date in a computer logbook.

Storage

Rubber hoses are subject to aging. To keep rubber hoses in good condition, good storage is important. Hoses may not be subjected to direct sunlight and UV radiation. During a protracted period of storage, the rubber hoses should be properly cleaned and be stored in a cool and dry place.



MTEK Dry-break
coupling