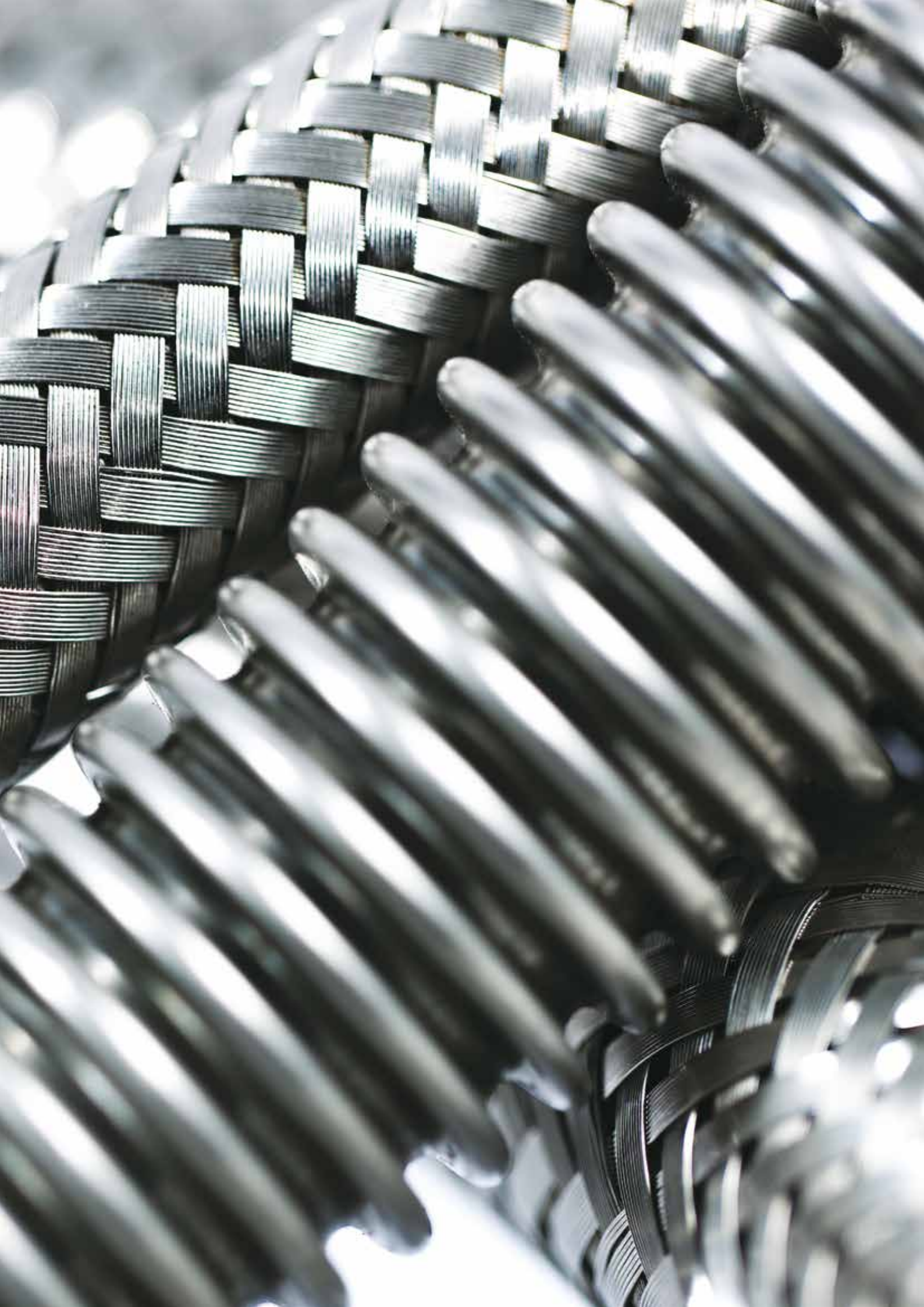




Metallic flexible hoses

INSTALLATION INSTRUCTION



IMPORTANT INFORMATION



Use and installation

Installation of metal hose connections is mainly determined by direction of movements, size of movements and frequency of movements. The ways of installation, which are characteristic for the different applications are brought together and described on the following pages. At installation special attention must be drawn to the fact that hose connections are installed twist-free. The hose must at installation or later movements not contain torsional stress. It is important that the centreline in connection installations, couplings, flanges etc, the centreline in the hose and its movements twist-free are in the same plane. Please note the pointers: Non-stressed installation, absolutely no torsion effect (twist).

Correct choice of hose length

Movements- and bend effects directly on the connections must be avoided. These so-called neutral parts of the ends of the hose must be sufficiently

dimensioned. If necessary a spiral spring can be installed at the ends, it can protect from extreme bend.

Non-stressed installation

Fasten the hose tight in one end. Fasten the other end loosely. Move the hose 2-3 times in the required direction of movement so that it can unbend twist-free. Fasten only now. At couplings use an extra wrench to hold against with. When connection part, couplings, flanges etc. are chosen, minimum one of these must be turn able to achieve the necessary non-stressed installation.

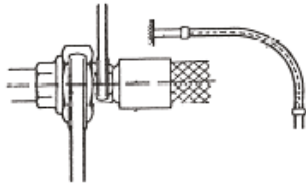
Do not undergo the allowed bend radius

The minimum allowed bend radius is depended of pressure, temperature and required load range. The values are found in the technical data for the kind of hose chosen. These data are available on request.

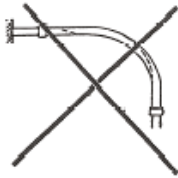
EXAMPLES OF CONNECTIONS

Example 1

Do



Do not

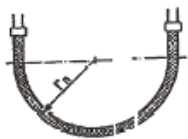


Connect the flexible hose twist-free. At turn able thread connection ends and couplings use an extra wrench to hold against. If no hold surface for the fast wrench at the bottom of the coupling exists, use a pipe wrench to hold against.

EXAMPLES OF LIFTING MOVEMENTS

Example 2

Do



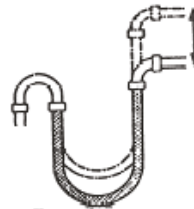
Do not



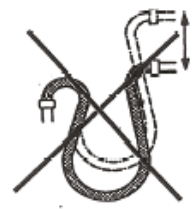
Install 180° bends with sufficient neutral (pendulous) flexible hose ends. The length of the flexible hose is determined according to the formula for 180° bends. The installation gap must be determined according to the required bend radius R.

Example 3

Do



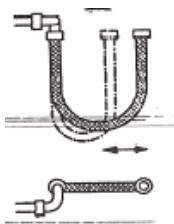
Do not



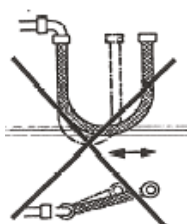
At use of fast pipe bends avoid impermissible turn and bend of flexible hoses immediately behind the connecting installations. Least the allowed bend radius MUST BE kept.

Example 4

Do



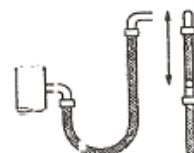
Do not



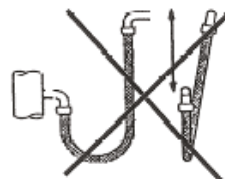
The direction of movement and the centreline of the flexible hose must lie in the same plane, in doing so damaging torsional effects (twisting) are avoided.

Example 5

Do



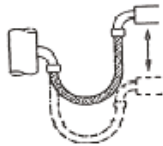
Do not



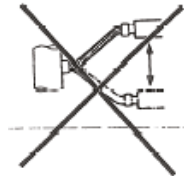
The direction of movement and the bend of the flexible hose lie in the same plane. In doing so damaging torsional effects are avoided.

Example 6

Do



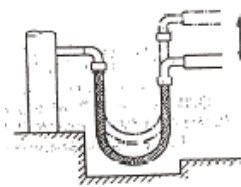
Do not



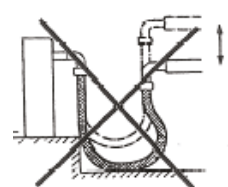
No changing bend effects and no to sharp flexible hose bend immediately behind the connecting installations at use of fast pipe bends.

Example 7

Do



Do not

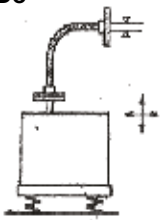


Place the flexible hose in a pendulous curve but so that it will never touch walls, other items or the floor.

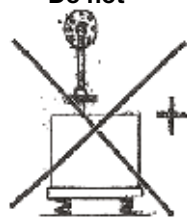
EXAMPLES OF VIBRATIONS

Example 8

Do



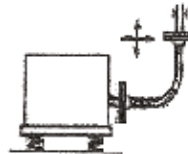
Do not



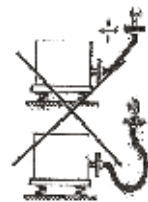
Install the flexible hose twist-free. The vibrations and the main direction of movement of the flexible hose must lie in the same plane, so that damaging torsional effects are avoided.

Example 9

Do



Do not



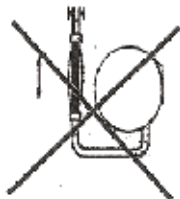
Install 90° bends with the permissible bend radius and sufficient neutral flexible hose ends. The nominal length and the length of the flexible hose are determined according to the formula: "90° bend for absorption of vibrations". Is require able. Bend and expansion/stretch of the flexible hose beyond the allowable must be avoided.

Example 10

Do



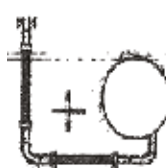
Do not



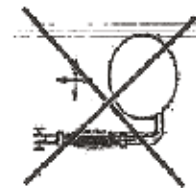
Install the flexible hose orthogonal onto the direction of vibration.

Example 11

Do



Do not



Install the flexible hoses as 90° angular line for absorption of two or three-dimensional vibrations. The flexible hoses do not absorb axial vibrations.

EXAMPLES OF ROTATIONAL MOVEMENT AROUND AN AXIS

Example 12

Do



Do not



For angular (L-shaped) absorption of movement the flexible hose is installed with sufficient long neutral flexible hose ends. Please note the required bend radius. The calculation of nominal length and installation gaps are according to the formula for angular movement. Data are available on request.

Example 13

Do



Do not



Angular movement and bend of the flexible hose must lie in the same plane. In doing so damaging torsion effects are avoided.

EXAMPLES OF THERMAL EXPANSIONS

Example 14

Do



Do not



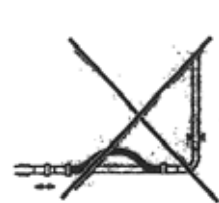
For absorption of thermal expansions installation of 90° hose bend with sufficient long straight flexible hose lengths, is calculated. The required nominal lengths and straight lengths of flexible hose ends are determined according to the formula: "90° bend for absorption of expansion". Is available on request. Hose bend and direction of movement must lie in the same plane.

Example 15

Do



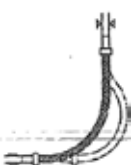
Do not



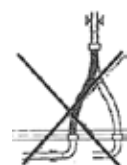
Lateral installation is only allowable for absorption of small expansions. Expansion of the flexible hose must be avoided.

Example 16

Do



Do not



For absorption of larger expansions a flexible hose in 90° bend is installed. Lateral installation can occur.

EXAMPLES OF FURTHER DESIGN- AND INSTALLATION INSTRUCTION

Example 17

Do



Do not



If outer abrasion and other mechanical forces are unavoidable, e.g. if the flexible hose is drawn over cement floor or the like, the hose must according to extent of influence be protected against damage either by a outer mounted steel spiral, round or flat, or an outer protection hose.

Example 18

Do



Do not



If the hose is used manually it must be protected from not-allowed influences of bends. This by using stiff pipe bends.


QUESTIONS & MORE INFORMATION


Please do not hesitate to contact us in case of doubt or questions.


Our experience, your benefit



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