

10.3 Lubrication guidelines

ELBE cardan-drive-shafts are normally equipped with 3 cone-grease-nipples DIN 71412. Thereby every joint will be greased over per grease nipple, the third nipple serves for relubrication of the spline profile.

This nipple is omitted for plastic-coated length extensions.

10.3.1 Lubricants

- Temperature range -30°C up to max. +100°C. For relubrication of the drive shafts use only **lithium-saponified greases** of consistency class 2 with penetrations 265/295 and drop point approx. 180°C. The lubrications may not contain **MoS₂**-additives.
- Temperature range up to approx. +160°C, temporary up to 180°C (**High-temperature-version**): use HT-greases of the consistency 1 or 2. Special versions up to +250°C are partly also available.
- Temperature range from approx. -60°C up to +110°C (low-temperature-version): use TT-greases of the consistency 1 or 2.
- **Low-maintenance or maintenance-free**: If longer lubrication-periods are required, low-maintenance versions of the drive shafts are available. In consideration of the application conditions if necessary maintenance-free versions are also available. Consult our technical service team.

10.4 Technical information

- Before lubricating **clean grease nipples!**
- The relubrication of the spline-length-extension should be carried out **at compressed length** S_{min} or in the shortest operation status (vehicle loaded). Non-observance may result in excess axial forces.
- Air vent may not be taken off or be replaced by standard grease nipples.
- The lubricant may not be pressed in with excessive pressure or with hard lubrication impact.
- Max. permitted **lubrication pressure: 20 bar.**
- The cross units have to relubricate over the grease nipples in the centre of the cross or on the bottom of a bearing housing of the cross. It must be ensured that grease has to be pressed in until it **leaks from all four seals of each bearing.**
- This is the only way to ensure that all four bearings have received fresh grease.
- Some versions of double drive-shafts are equipped with a grease nipple on the centre piece of the joint, over which both cross joints can be relubricated at the same time through lubrication ducts (**central lubrication**).
- Drive shafts that are stored more than 6 months have to be lubricated before starting.

10.5 Control information

- Fittings and connection flanges have to be checked for firm connection.
- Drive shafts should be checked in operation for abnormal noises or vibrations, to determine the cause and initiate repair work.
- Before lubrication, check the driveshaft for looseness in the joints or splines.
- The connection side of the drive shaft flanges and companion flanges must be cleaned before installation. They must not be greased or oiled.
- Corrosion inhibitors and paint residues must be thoroughly removed. Possible light transportation damage should be corrected (knicks and scratches).
- Companion flanges have to be checked for face and OD roundout.