

SEAMLESS CHROMED TUBES SUITABLE FOR SHAFTS

STOCK FACILITY

STEEL GRADES

Our standard stock of outside chromed tubes for shafts consists of steel grade E355, according to EN 10305-1, in delivery condition "stress relieved" (+SR).

Upon request and with conditions and quantities to be agreed, it is possible to provide tubes in other steel grades and delivery conditions among the ones described in this catalogue.



DELIVERY CONDITIONS

Outside chromed tubes for shafts can be obtained starting from feedstock tubes in steel grades with different possible delivery conditions, detailed as follows:

COLD DRAWN / HARD (+C acc. EN 10305 / BK acc. DIN 2391): no heat treatment after final cold drawing. This delivery condition allows to reach considerably high mechanical properties, but with residual stress of metal due to cold deformation process.

COLD DRAWN / SOFT (+LC acc. EN 10305 / BKW acc. DIN 2391): the final heat treatment is followed by a suitable drawing pass (limited reduction of area). With this process high mechanical properties are anyway obtained, but partially reducing residual stress of metal respect to material in condition +C.

STRESS RELIEVED (+SR acc. EN 10305 / BK+S acc. DIN 2391): after final cold drawing process, tubes are stress relieved by heat treatment in controlled atmosphere, in order to further reduce residual stress due to cold deformation process, preserving in the meanwhile high mechanical properties and rigidity. This process also allows to reach good impact properties too.

ANNEALED (+A acc. EN 10305 / GBK acc. DIN 2391): after final cold drawing process, tubes are annealed in controlled atmosphere. In this case residual stress due to cold deformation process is further reduced, but with a higher reduction of mechanical properties too.

NORMALIZED (+N acc. EN 10305 / NBK acc. DIN 2391): after final cold drawing process, tubes are normalized in controlled atmosphere at a temperature exceeding the austenizing temperature. This treatment almost completely reduces residual stress of metal considerably increasing impact properties, but yield and tensile properties are drastically reduced.



SURFACE PROTECTIONS

All chromed tubes are individually protected from casual damages due to handling and/or crashes by an extruded polypropylene envelope, cardboard or other suitable covers. This allows to protect and keep intact the chromed surface during handling and storage.

PACKAGING

The material, in random lengths and fixlengths, is supplied in bundles closed with iron straps (adding protective material) or reinforced adhesive taper according to weight and dimensions.

Tubes cut to fixlengths are supplied with also polyester bands, in order to make handling operations easier.

Upon request it is possible to arrange special packing: wooden boxes, pallets etc.

CERTIFICATES AND MARKINGS

All supplies can be completed by mill test certificates type 3.1 according to EN 10204. Traceability is granted by labels or paint marking on the protective envelope.

LENGTHS

RANDOM LENGTHS: from 5 to 7 m.

FIXEDLENGTHS: Chromed tubes can be cut to fixed length required by the customer by automatic band saw machines. Standard length tolerance is $-0/+5$ mm, more restrictive tolerances can be agreed at the moment of the order.

DELIVERIES

Inland, through carriers.

