

Mr. Andreas Eisenbarth  
TeProMKC GmbH  
Ursulastraße 33-41  
50354 Hürth  
Deutschland

Oinofyta, June 4, 2020

**TALOS®XS copper tubes – Pressure Rated to 130bar**

Dear Mr. Eisenbarth,

TALOS®XS tubes are made from a high strength copper-iron alloy (CuFe2P) according to the European Norm EN12735-1 “Copper and copper alloys - Seamless, round tubes for air conditioning and refrigeration - Part 1: Tubes for piping systems”. Moreover, TALOS®XS tubes meet the requirements of the Technical Document VdTÜV WB576 “Seamless tube in CuFe2P (CW 107C); Seamless tube, refrigeration unit, heat exchanger”, as well as, our internal company specification.

TALOS®XS tubes fulfill the requirement of enhanced strength properties of the European Norm EN14276-1:2020 “Pressure equipment for refrigerating systems and heat pumps. Vessels. General requirements”, harmonized with the European Pressure Equipment Directive (PED) 2014/68/EU.

TALOS®XS tubes supplied to TeProMKC, according to the Material Number listed below, are rated for a maximum allowable pressure of 130bar at an operating temperature of 150°C.

TALOS®XS tubes for 130bar			
Material Number	OD x WT x L (mm)	Material Condition	Weight (gr/m)
21028073165	9,525 x 0,65 x 5000	R300	161
21028073595	12,700 x 0,85 x 5000	R300	282
21028073596	15,875 x 1,05 x 5000	R300	435
21028073597	19,050 x 1,30 x 5000	R300	645
21028073598	22,225 x 1,50 x 5000	R300	869
21028073166	28,575 x 1,90 x 5000	R300	1417
21028073167	34,925 x 2,30 x 5000	R300	2098
21028073599	41,275 x 2,70 x 5000	R300	2912
21028075092	53,975 x 3,55 x 5000	R300	5005
21028086709	66,675 x 4,45 x 5000	R300	7743

- The Maximum Allowable Pressure (MAP) is calculated according to the DBF (Design by Formula) method of EN14276-2:2020, which complies with the European Pressure Equipment Directive (PED) 2014/68/EU.
- The minus tolerance of the wall thickness is considered, according to EN12735-1 specifications.
- For CuFe2P material, the design stress is determined as  $R_p1,0/t/1.3=140/1.3$  at temperatures up to 150°C. Material properties are obtained from EN14276-1: 2020.
- No corrosion allowance is taken into account.
- No further processing is taken into account (e.g. swaging, expansion, joining, flaring, bending).

TALOS®XS copper tubes are manufactured in a complete range to provide a reliable and safe solution for high-pressure CO<sub>2</sub> systems in refrigeration applications.

Sincerely,



George Hinopoulos  
Deputy CMO