



INDUSTRIAS UNIDAS, S.A. DE C.V. (DIV. TUBOS)

CERTIFIED ON QUALITY SYSTEM ISO-9001:2015

CERTIFICATE OF COMPLIANCE

No. 087

SHIPMENT No: 55

P.O. : 6738446

CUSTOMER: COMPRESORES SERVICIOS C.A.

DATE: MARCH 13, 2025

MATERIAL DESCRIPTION: REFRIGERATION TUBE

DESTINATION: VENEZUELA

STANDARD: ASTM B743

MATERIAL SHIPPED

CODE	NOMINAL SIZE	LENGTH	PALLETS	COILS	CODE	WALL THICKNESS (in)		
324966	FLEX REF 3/ 16" X 0.024"	15 m	1/ 50	50	324966	0.023		
364508	FLEX REF 5/ 8" X 0.028"	15 m	1/ 100, 1/ 200	300	364508	0.026		
216923	FLEX REF 1/ 4" X 0.024"	15 m	1/ 600	600	216923	0.022		
217914	FLEX REF 3/ 8" X 0.024"	15 m	5/ 300	1,500	217914	0.023		
313008	FLEX REF 1/ 2" X 0.028"	15 m	2/ 250	500	313008	0.027		
217915	FLEX REF 3/ 4" X 0.032"	15 m	6/ 80, 1/ 20	500	217915	0.030		
216922	FLEX REF 5/ 16" X 0.024"	15 m	1/ 100	100	216922	0.022		
217916	FLEX REF 7/ 8" X 0.035"	15 m	2/ 60	120	217916	0.032		

CHEMICAL COMPOSITION

NOMINAL SIZE	COPPER %	PHOSPHORUS %		
FLEX REF 3/ 16" X 0.024"	99.95	0.038		
FLEX REF 5/ 8" X 0.028"	99.95	0.035		
FLEX REF 1/ 4" X 0.024"	99.96	0.021		
FLEX REF 3/ 8" X 0.024"	99.96	0.035		
FLEX REF 1/ 2" X 0.028"	99.97	0.026		
FLEX REF 3/ 4" X 0.032"	99.97	0.024		
FLEX REF 5/ 16" X 0.024"	99.97	0.023		
FLEX REF 7/ 8" X 0.035"	99.95	0.037		
SPEC	99.9 Min.	0.015 - 0.040		

MECHANICAL REQUIREMENTS

NOMINAL SIZE	*TENSILE STRENGTH	ELONGATION		
FLEX REF 3/ 16" X 0.024"	34,725	43		
FLEX REF 5/ 8" X 0.028"	37,262	47		
FLEX REF 1/ 4" X 0.024"	36,535	45		
FLEX REF 3/ 8" X 0.024"	37,023	46		
FLEX REF 1/ 2" X 0.028"	35,211	47		
FLEX REF 3/ 4" X 0.032"	36,580	45		
FLEX REF 5/ 16" X 0.024"	35,871	44		
FLEX REF 7/ 8" X 0.035"	36,112	44		
SPEC	30,000 PSI min.	40% Min.in 2 in.		

NOMINAL SIZE	RESIDUES	GRAIN SIZE	EXPANSION	
FLEX REF 3/ 16" X 0.024"	0.0090	0.047	44	
FLEX REF 5/ 8" X 0.028"	0.0088	0.042	43	
FLEX REF 1/ 4" X 0.024"	0.0125	0.045	44	
FLEX REF 3/ 8" X 0.024"	0.0115	0.040	41	
FLEX REF 1/ 2" X 0.028"	0.0084	0.045	46	
FLEX REF 3/ 4" X 0.032"	0.0073	0.052	43	
FLEX REF 5/ 16" X 0.024"	0.0095	0.042	43	
FLEX REF 7/ 8" X 0.035"	0.0064	0.045	41	
SPEC	0.038 g/m² Máx.	0.040 mm Min.	SEE NOTE 2	

NOTES:

1.- AVERAGE VALUES

2.- EXPANSION: 3/4 AND UNDER: 40% OF O.D. AND OVER 3/4: 30%

3.- ALLOY UNS C12200


QUALITY ASSURANCE