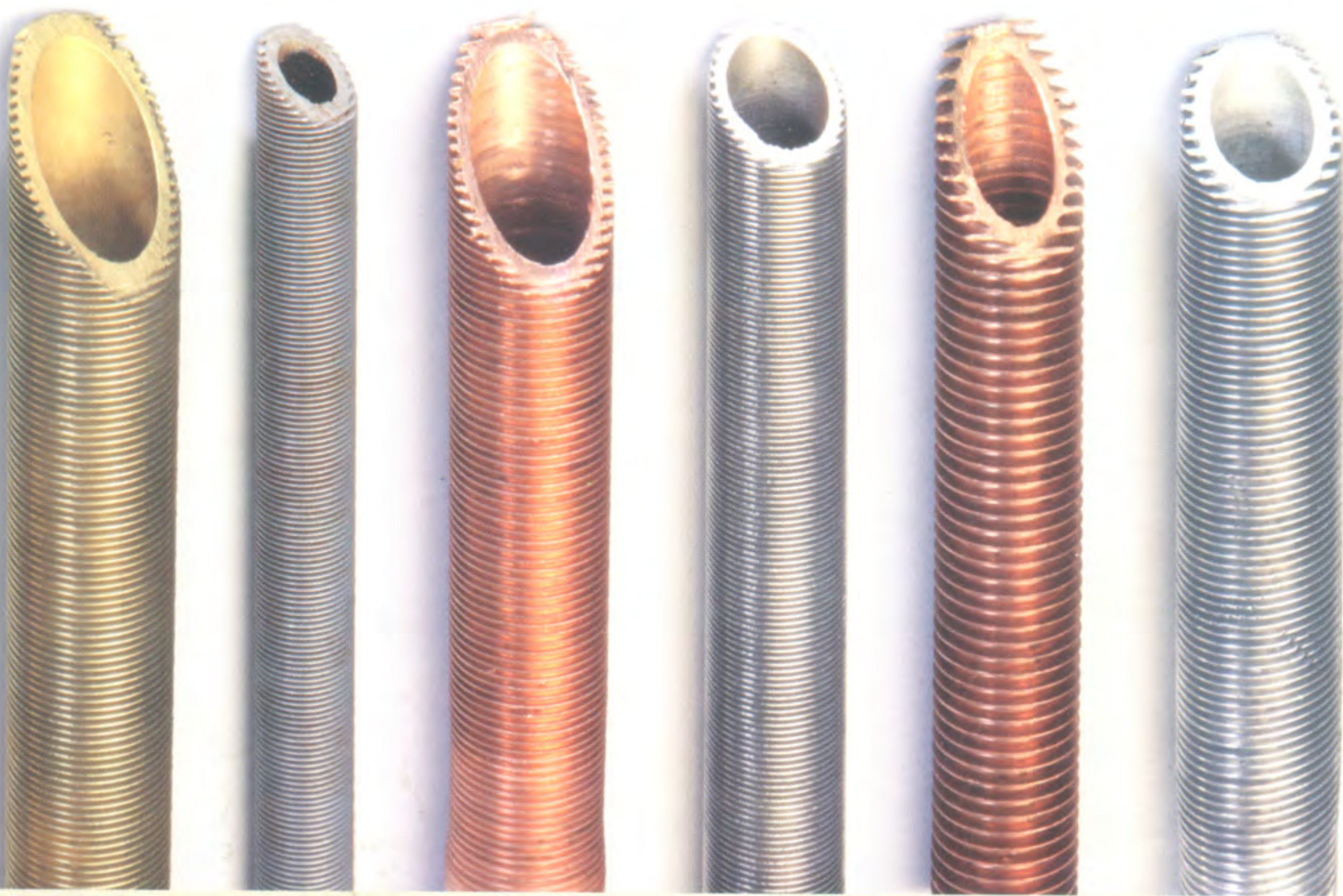
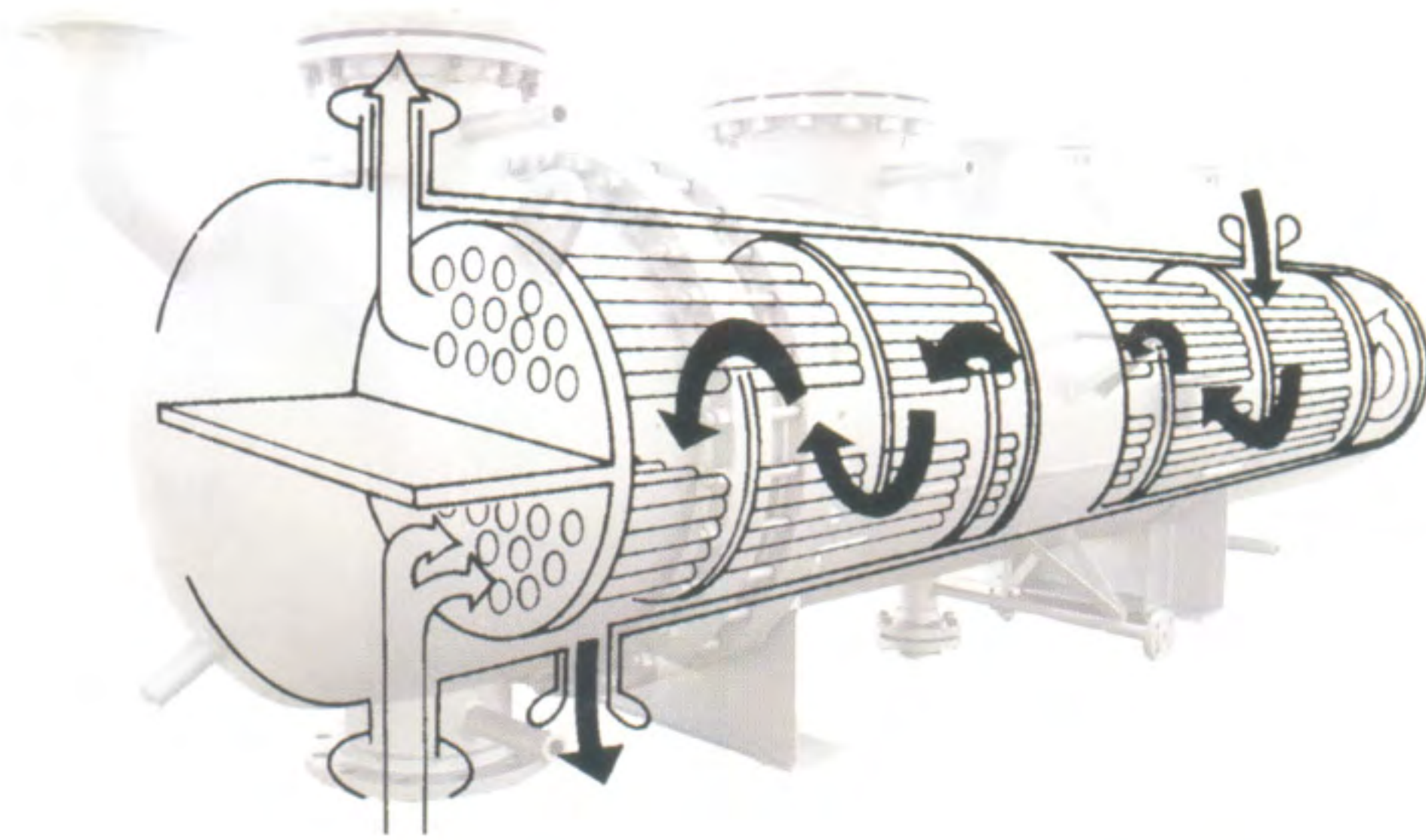


Integral Low Fin Tubes

for

Heat Exchanger Applications



natasha FIN TUBES PVT. LTD.

INTRODUCTION

NATASHA FIN TUBES (NFT) have been manufacturing **INTEGRAL LOW FIN TUBES** made out of quality plain **Non-Ferrous and Ferrous Tubes**, viz. Copper, Cupro-Nickel, Admiralty-Brass, Aluminium-Brass, Aluminium, Carbon Steel, and Stainless Steel Tubes, since 1994.

The Integral Fin Tube is a tube where the external surface of the tube is enhanced by the process of finning and fins are drawn from the base material of the tube, resulting in increase in the surface area by 2.5 times than the plain tube area.

CHARACTERISTICS

Fin Tubes are fully integrated, so that the Heat Transfer performance, life and resistance to vibration are excellent. Fin Tubes can improve the thermal performance of a Heat Exchanger without changing in shell size, flow arrangement or the repositioning of tubing.

Integral Low Fins Tubes have a very large Heat Transfer ratio thus it is possible to reduce the volume, weight of the Heat exchangers and finally reduce the cost.

QUALITY

Fin Tubes are manufactured as per Customer requirement. The Standards followed are ASTM SB-359, SA-213 /SA-213-M, SA-450 / SA-450-M, SA-688 / SA-688-M. Material Testing will be carried out as per ASTM B-154.

NFT is having an in-house tube bending facility for manufacturing **Finned "U" Bend Tubes** for Heat Exchangers. Bending of "U" tubes as per TEMA-RCB (Sec. IV).

Tolerances of Fin Tubes are strictly maintained as per customer requirement and inspection will be carried out as per Quality Plan. The dimensions are checked by Testing and Measuring Equipments and Profile of the fins are checked on Profile Projector. 100% Fin Tubes are checked for leak test by Pneumatic Pressure Testing / Hydro testing as per specification and requirement.

NFT is having an in-house Continuous Conveyor Type Furnace for **Stress Relieving** of Non-Ferrous material, after finning. Hardness and Micro structures are confirmed and verified after Stress Relieving.

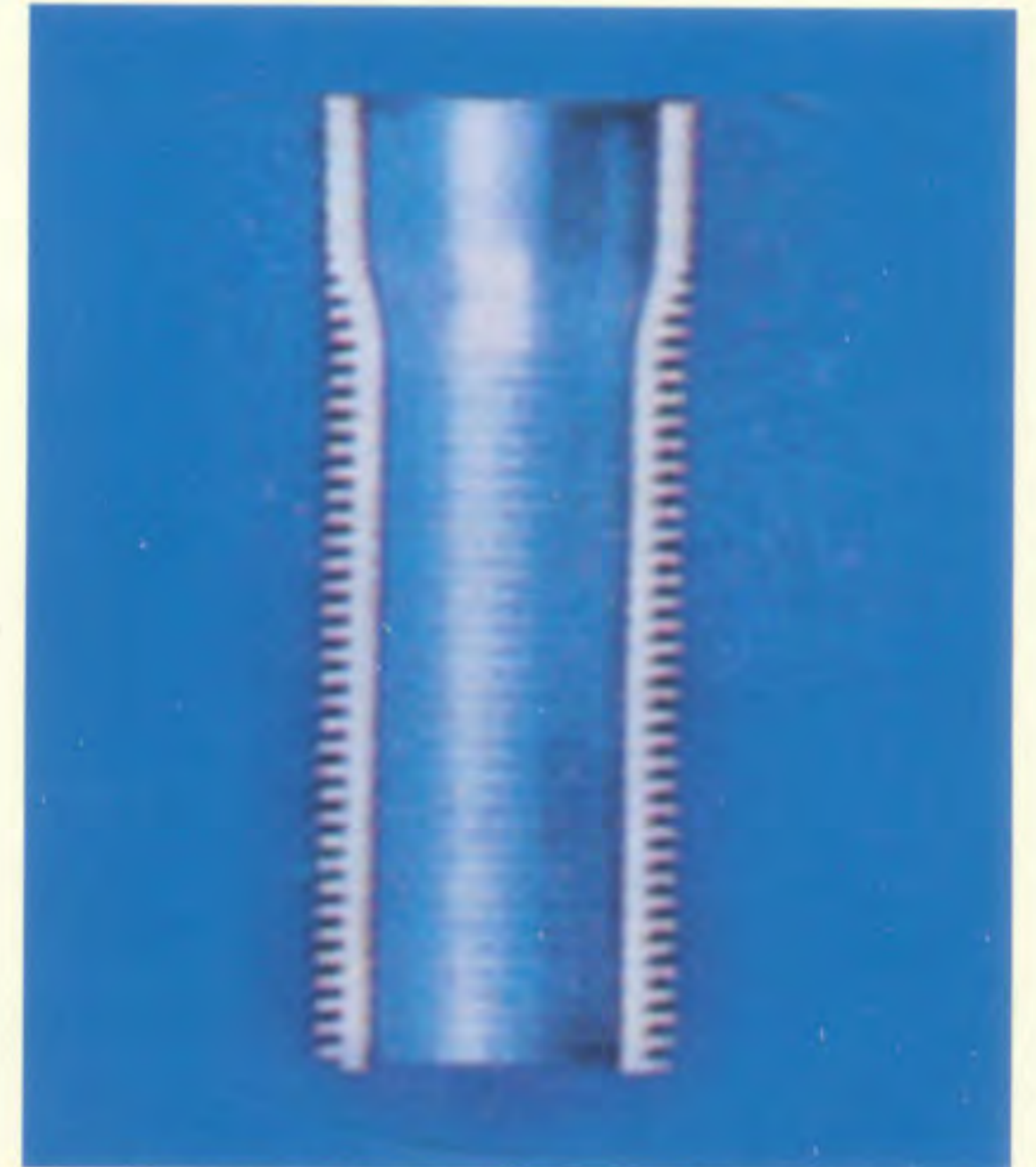
Fin Tubes can be offered for any **Third Party Inspection Agency** for inspection as per the customer's requirements.

PRODUCTION RANGE

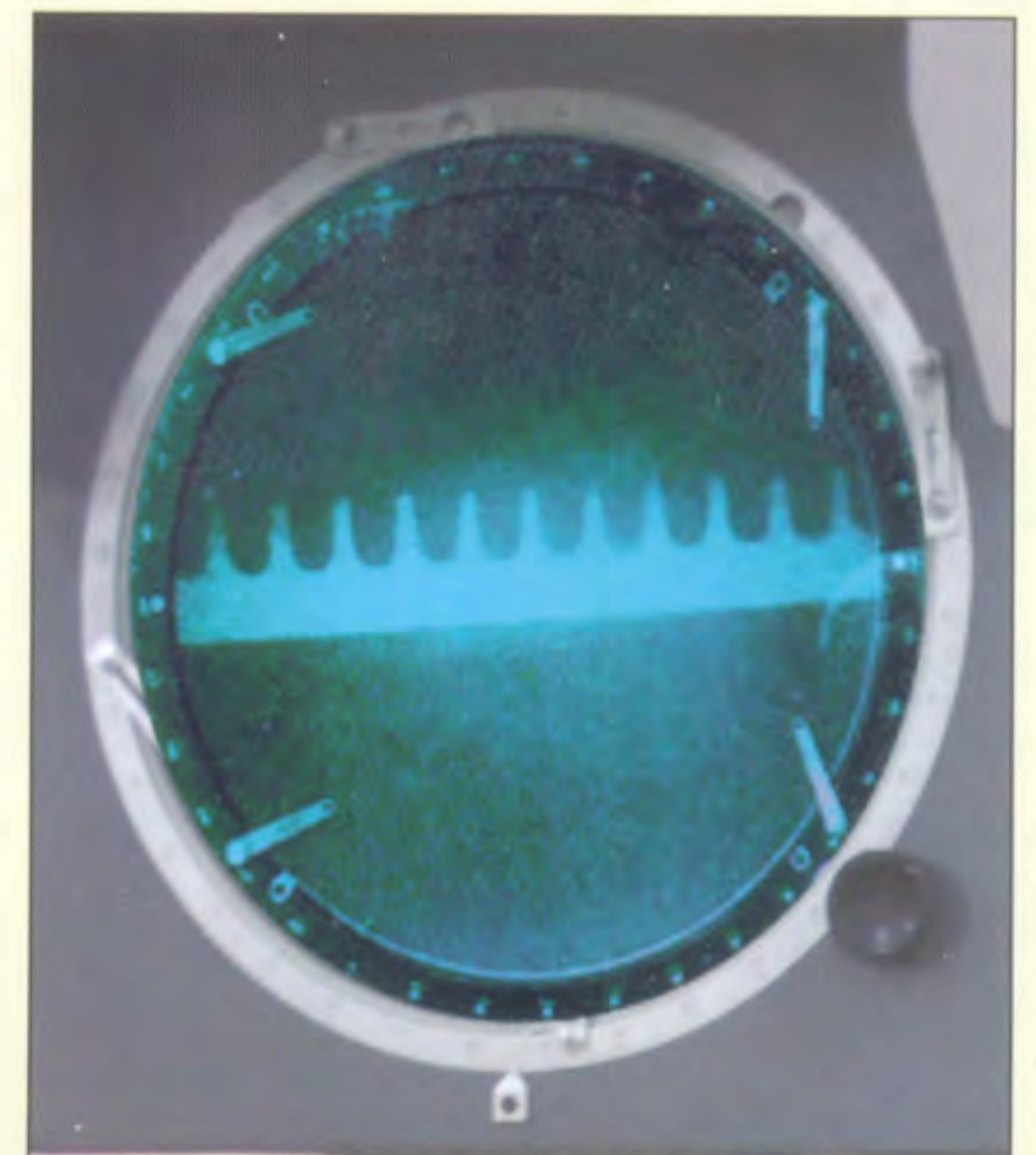
Tube Length	:	20 Meters Max.
Outside Diameter	:	9.52mm OD to 38.10mm OD
Tube Wall Thickness	:	1.00mm (Min)
Number of Fins Per Inch	:	11, 16, 19, 23, 26, & 30 FPI.

APPLICATION

Integral Fin Tubes can be used in various Heat Exchanger Applications, Viz. Condensers, Chillers, Oil Coolers and Shell & Tube Type Heat Exchangers.



View of Integral Low Fin Tubes



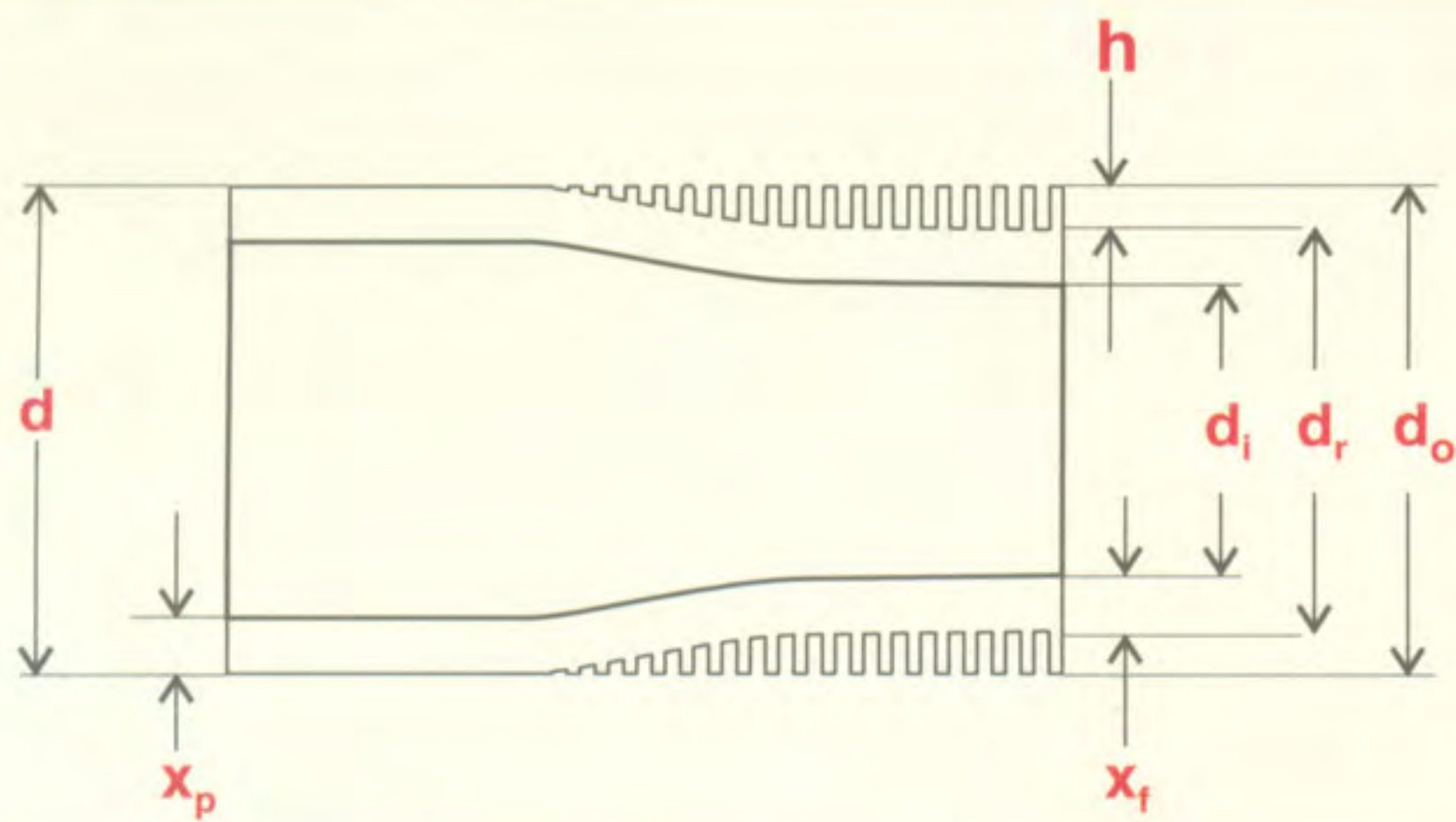
Inspection on Profile Projector



Copper Corrugated Tube



Our Speciality: SS Low Fin Tubes



- d** : Outside Diameter of unenhanced section
- x_p** : Wall Thickness of the unenhanced section
- d_r** : Root Diameter at enhanced Section
- d_i** : Inside Diameter of the enhanced Section
- d_o** : Outside Diameter of enhanced Section
- x_f** : Wallthickness of the enhanced section
- h** : Fin Height

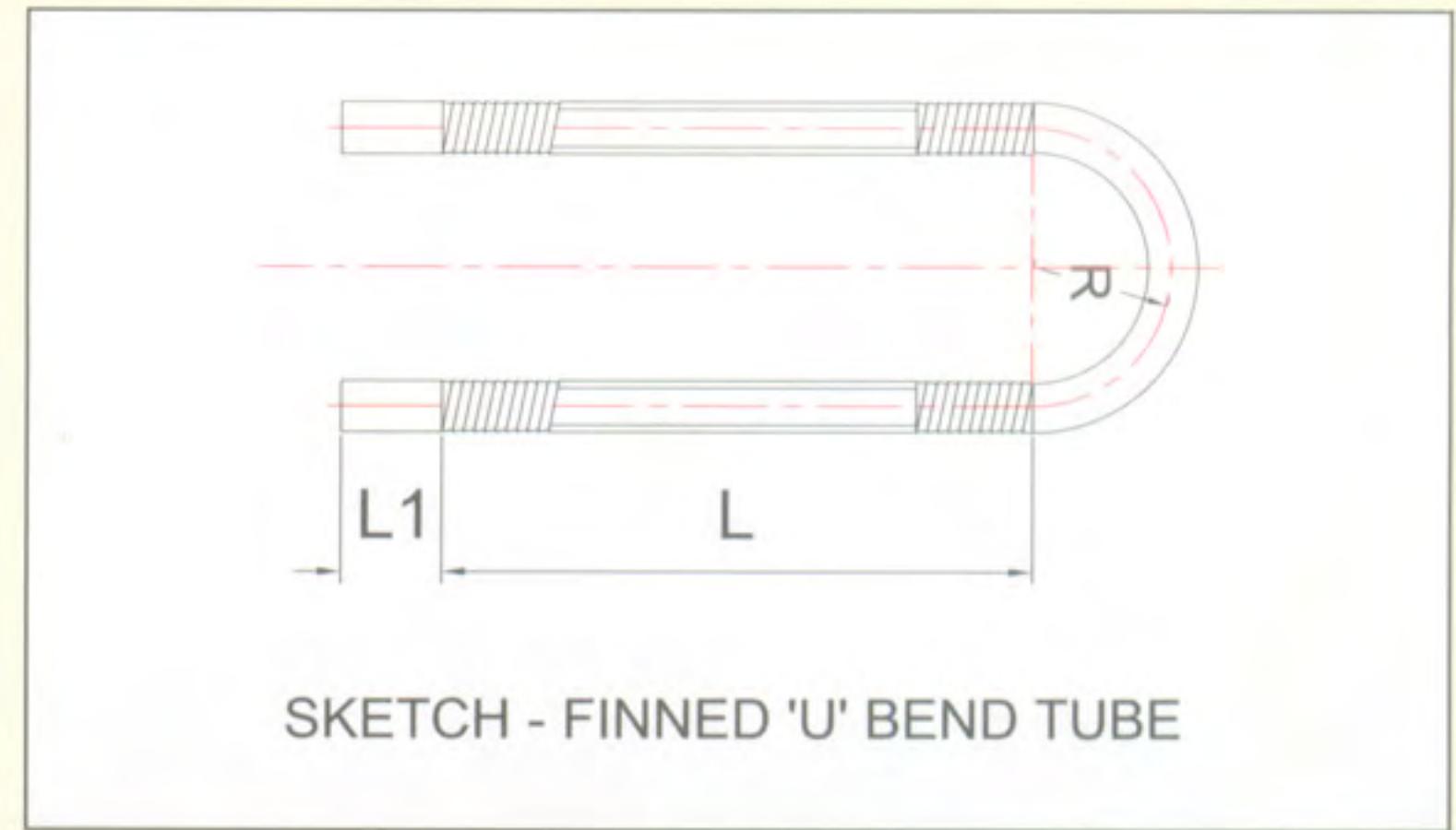
TECHNICAL PARAMETERS OF FIN TUBES

UNENHANCED SECTION				ENHANCED SECTION						
Outside Dia (d)		Wall Thickness (x _p)		No. of Fins per Inch (FPI)	Outside Diameter of enhanced section	Fin Height (+/-0.10)	Root Diameter of the enhanced section	Inside Diameter of the enhanced section	Outside Area (m ² /m)	Surface Area Ratio Outside / Inside (Approx)
(mm)	(Inch)	(mm)	(SWG)		(d _o) (mm)	(h) (mm)	(d _r) (mm)	(d _i) (mm)	(Approx)	(Approx)
25.40	1.000 (1")	2.03	14.0	19	25.20	1.35	22.50	20.50	0.204	3.17
		2.03	14.0	26	25.20	1.35	22.50	20.50	0.279	4.34
22.20	0.874 (7/8")	1.42	17.0	19	22.00	1.35	19.30	17.70	0.167	3.01
		1.65	16.0	19	22.00	1.35	19.30	17.30	0.176	3.24
		1.65	16.0	26	22.00	1.35	19.30	17.30	0.241	4.44
		2.03	14.0	19	22.00	1.35	19.30	16.30	0.199	3.89
19.05	0.750 (3/4")	1.32	17.5	19	18.80	1.35	16.10	14.40	0.143	3.16
		1.32	17.5	23	18.80	1.35	16.10	14.40	0.173	3.82
		1.32	17.5	26	18.80	1.35	16.10	14.40	0.196	4.32
		1.42	17.0	19	18.80	1.35	16.10	14.30	0.145	3.22
		1.42	17.0	23	18.80	1.35	16.10	14.30	0.175	3.90
		1.42	17.0	26	18.80	1.35	16.10	14.30	0.198	4.41
		1.65	16.0	19	18.80	1.35	16.10	14.10	0.149	3.35
		1.65	16.0	23	18.80	1.35	16.10	14.10	0.180	4.06
		1.65	16.0	26	18.80	1.35	16.10	14.10	0.203	4.59
15.85	0.625 (5/8")	1.42	17.0	19	15.70	1.35	13.00	11.30	0.117	3.30
		1.42	17.0	23	15.70	1.35	13.00	11.30	0.142	3.99
		1.42	17.0	26	15.70	1.35	13.00	11.30	0.160	4.51
		1.65	16.0	19	15.70	1.35	13.00	11.10	0.120	3.44
		1.65	16.0	23	15.70	1.35	13.00	11.10	0.145	4.17
		1.65	16.0	26	15.70	1.35	13.00	11.10	0.164	4.71
		2.03	14.0	11	17.65	2.80	12.05	10.25	0.128	3.97
		2.03	14.0	19	15.75	1.35	13.05	10.15	0.136	4.26
		2.03	14.0	23	15.75	1.35	13.05	10.15	0.164	5.16
		2.03	14.0	26	15.75	1.35	13.05	10.15	0.186	5.83
12.70	0.500 (1/2")	1.20	18.0	19	12.50	1.00	10.50	9.40	0.068	2.29
		1.20	18.0	26	12.50	1.00	10.50	9.40	0.093	3.13
09.52	0.375 (3/8")	1.20	18.0	26	9.20	0.90	7.40	6.30	0.061	3.09

Note : Normal Tolerances applicable on above dimensions.

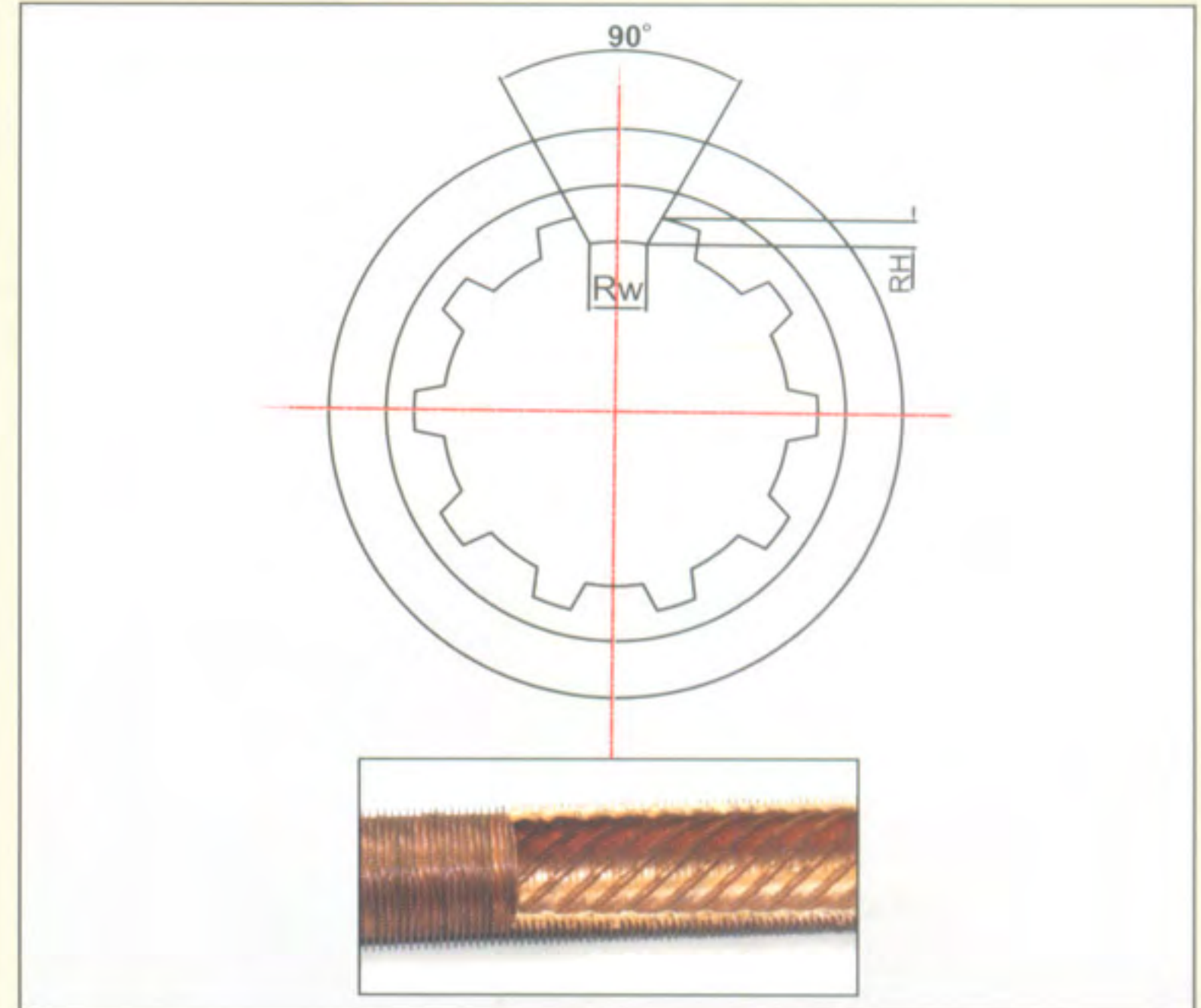
FINNED "U" BENDS

Integrally Low Finned U Bend Tubes will reduce the tube installation & total equipment costs and widely used in power and process equipments.



TURBOCHILL TUBES

Tubes with an integral enhanced surface having helical fins (19, 26, 40) on the outside & internal helical ridges on the inside to improve turbulence, giving more balance outside to inside co-efficient ratio & designed for boiling & condensing of hydrocarbons.



FIN TUBE COILS

Fin Tube Coils in different forms are available in direct application in various types of Heat Exchangers.



natasha FIN TUBES PVT. LTD.

932, Shivajinagar, Pune 411 016 (INDIA)

Tel.: (020) 25656591 / 25652327

Email: natashafintubes@gmail.com; viraj-ip@eth.net

Website : www.natashafintubes.com

Since Research & Development is an ongoing process, the specifications given are subject to change without notice.