



Finarvedi SpA

Carbon steel

Stainless steel

Acciaieria Arvedi SpA



Hot rolled pickled, galvanised and painted carbon steel coils

Arvedi Tubi Acciaio SpA



Black, galvanised and coated carbon steel welded tubes

iltainox SpA



Stainless steel welded tubes

Arinox SpA



Cold rolled stainless steel precision strip

Metalfer SpA



Cold drawn carbon steel tubes



Stainless steel and copper-nickel alloy press fittings

Metalfer Poland
Metalfer Automotive
Metalfer Automotive Morocco
Metalfer Omer
Arvedi Metalfer Brasil Ltda



Welded and cold drawn carbon steel tubes



METALFER, the Italian steel group leader in the production of welded cold drawn tubes, ranging from 8 mm to 235 mm outer diameter, has achieved the highest levels of product quality recognized by customers the world over.

METALFER has the know-how needed to produce high quality products to the most critical customer requirements.

This enhances the competitiveness of the company and its customers.

With an annual production of 105,000 metric tons of cold drawn, skived/roller burnished and honed tubes including over 80 million cut pieces, takes place in 7 plants located in 4 countries.

METALFER IN THE WORLD

The exclusive know how needed to produce quality is carefully designed to reduce costs. This enhances the competitiveness of the company and of its customers.

Metalfer's manufacturing capabilities and technical competencies helps it stand out among its peers as an industry leader.

With an annual production of 105,000 metric tons of welded cold drawn tubes and 20,000 metric tons of cut pieces, Metalfer produces in 7 facilities located in Italy, Poland, Brazil and Morocco.



ITALY

- Roè Volciano (Brescia)
- Corbetta (Milano)
- Avigliana (Torino)
- Tradate (Milano)



POLAND

- Bielsko-Biala (Kraków)



BRAZIL

- Salto (São Paulo)



MOROCCO

- Tangier



METALFER

COLD DRAWN

METALFER
Roè Volciano plant

METALFER
Corbetta plant

ARVEDI METALFER
do **BRASIL**
Indaiatuba plant

ADDED VALUE

METALFER AUTOMOTIVE
tube cutting

METALFER POLONIA
tube cutting

METALFER MOROCCO
tube cutting

METALFER OMER
skived and roller burnishing and
honing

METALFER (Corbetta)
skived and roller burnishing



ROE' VOLCIANO ITALY

The plant, next to Salò on Garda Lake, is the group's headquarter, specializing in cold drawn tubes of external diameter between 8 mm and 235 mm, with a maximum wall thickness of 15 mm and with an annual production of over 45,000 metric tons.

Metalfer has over 50 years of experience serving demanding customers in the automotive, fluid power and industrial equipment sectors providing welded cold drawn tubes, "ready to use", fit to be skived, skived and roller burnished and honed material.

Meeting exacting surface and dimensional requirements is made possible by a fully integrated production process that transforms molten scrap into down stream value added DOM tubing products. Thus, resulting in a reliable business partner that can react to customer quality and delivery needs.



CORBETTA ITALY

The Corbetta plant is located near Milan, specializing in cold drawn tubes of external diameter between 20 mm and 180 mm, with a maximum wall thickness of 10 mm and with an annual production of over 35,000 metric tons.

The plant is also specialised in the production of skived and roller burnished tubes, with a wide dimensional range.

The production plants of Roè Volciano and Corbetta are fully interchangeable, allowing METALFER to be very flexible in responding to customer delivery needs.



AVIGLIANA ITALY

The Avigliana plant is located near Turin. It is a cutting and forming operation.

Tubes are cut and chamfered with outer diameters of 10mm to 120mm and lengths up to 1,500mm.

Tubes can be cut and deburred with outer diameters up to 250mm and lengths over 3,000mm.

Production focuses on the needs of automotive customers in Western and Southern Europe.





TRADATE ITALY

The Tradate plant, Metalfer Omer, is located near Milan and specializes in skived and roller burnished operation.





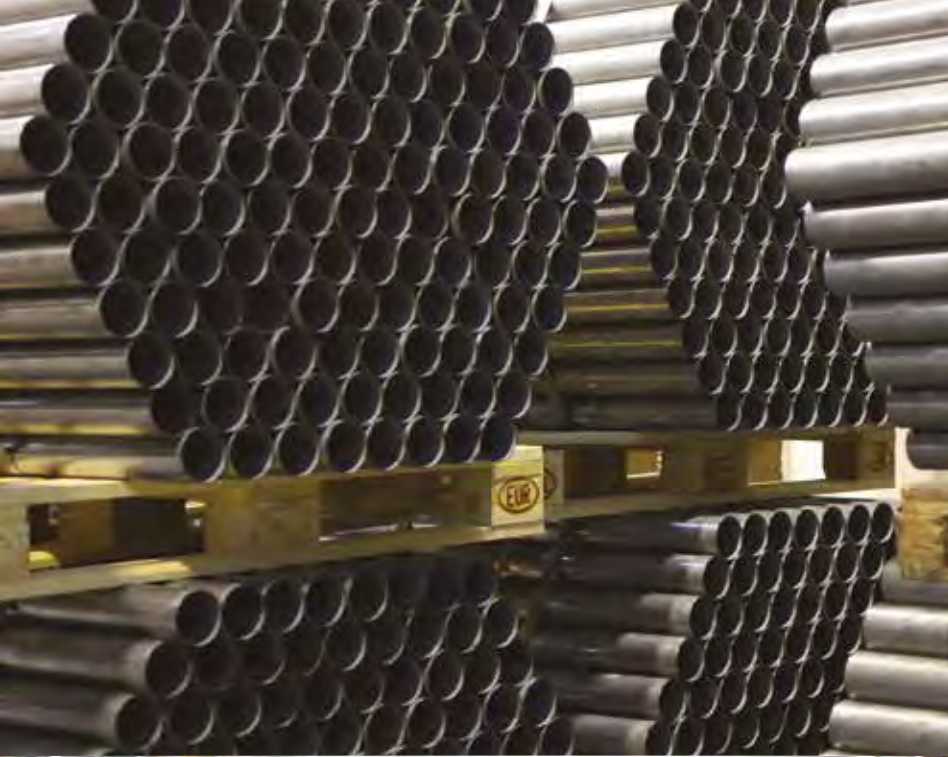
BIELSKO BIALA POLAND

The Bielsko Biala plant is located 80 Km from Krakow, Poland. It is a cutting and forming operation.

Tubes are cut and chamfered with outer diameters of 10mm to 120mm and lengths of up to 1,500mm.

Tubes can be cut and deburred with outer diameters up to 250mm and lengths over 3,000mm.

Production focuses on the needs of customers in Eastern and Northern Europe.



TANGIER MOROCCO

The Tangier plant is located near Tangier in Tangier Automotive City. It is a cutting and forming operation.

Tubes are cut and chamfered with outer diameters of 10mm to 120mm and lengths up to 1,500mm.

Production focuses on the needs of automotive customers in Africa, the Americas, and Southern and Western Europe.





SALTO BRAZIL

The Salto plant is located near Campinas, Brazil. It welds and cold draws tubes with outer diameters of 20mm to 215mm and maximum wall thickness of 10mm.

Cut to length services are also provided.

Annual production is approximately 18,000 metric tons.

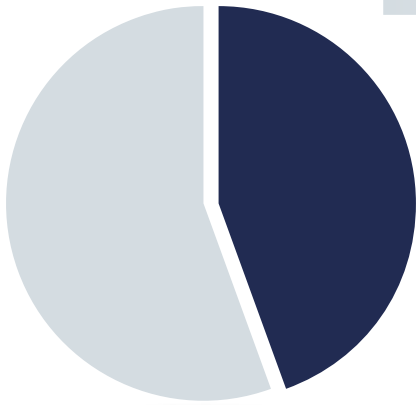
Production focuses on the needs of automotive and fluid power customers in South and North America.





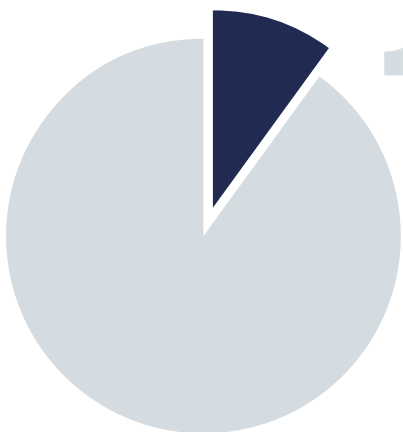
50% AUTOMOTIVE

The automotive sector makes up 50% of Metalfer's production. With over 50 years of experience, Metalfer is considered a leading supplier to automotive manufacturers the world over.



40% CYLINDERS

The fluid power sector makes up 40% of Metalfer's production. Superior surface finishes that includes special smooth interior diameter (SSID) or "ready to use" (H9), skived and roller burnished (H8), and honed tubing; along with tight dimensional tolerances has earned Metalfer the reputation of the "go - to" supplier from the most demanding customers on 4 continents.



10% INDUSTRIAL

The industrial sector makes up the remaining 10% of Metalfer's production. A wide range of dimensions, surface finishes, and tight tolerances of its cold drawn tubing places Metalfer in a leading position for the supply of precision steel tubing.



Dimensional chart for welded cold drawn tubes for mechanical application

OD mm	WALL THICKNESS mm																							
	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12.5	
ID TOLERANCE RANGES																								
8																								
10																								
12																								
14																								
16																								
18																								
20																								
22																								
25																								
28																								
30																								
35																								
40																								
45																								
50																								
60																								
70																								
80																								
90																								
100																								
110																								
120																								
130																								
140																								
150																								
160																								
170																								
180																								
190																								
200																								
210																								
220																								
230																								
240																								

Table (1) for tubes with required delivery condition +C e +LC; for tubes with delivery condition +A, +SR and +N, the tolerance ranges noted in the table must be multiplied by the numbers noted in the following table (2)

Ratio WT/OD	The tolerances noted in the table above must be multiplied by the following factors
≥ 0.05	1
$0.025 \leq \text{WT/OD} < 0.05$	1.5
< 0.025	2

Metalfer Automotive

In addition to steel grades of the EN 10305-2 standard, microalloy steel grades 26MnB5 – 28Mn6 – 34MnB5 may also be supplied.

STEEL GRADES:

E235 - E275 - E355

CONDITIONS OF SUPPLYING:

Welded tubes cold drawn in reactive oil (+C and +LC). Random lengths from 5 to 7 m plain ends or fixed lengths.

TOLERANCES:

Outside diameter: +/-0.04 mm

Inside diameter: on request

Ra < 0,4 µm

TESTS:

Visual and dimensional inspections, roughness test, mechanical tests, chemical analysis, non destructive tests.





Dimensional chart for welded/seamless cold drawn tubes

OD mm	WALL THICKNESS mm - FINISHED INSIDE H8									
	5	6	7.5	10	12.5	15	17.5	20	22.5	25
35										
40										
45										
50										
60										
65										
70										
75										
80										
85										
90										
100										
105										
110										
120										
125										
130										
140										
150										
160										
170										
180										
190										
200										
205										
210										
215										
220										
225										
230										
235										
240										
245										
250										
270										
280										
300										

According to the standard:
 EN 10305-2 / 1
Steel grade: E355
Delivery condition: +SR
ID tolerance H8

Mechanical properties:
 $R_m > 580 \text{ N/mm}^2$;
 $R_s > 520 \text{ N/mm}^2$;
 $A_{p5} > 15\%$
 $R_a < 0.25 \mu\text{m}$, $R_t < 1.6 \mu\text{m}$

Tests: visual, dimensional,
 mechanical tests and
 chemical analysis,
 ultrasound check 100%

Dimensional chart for welded cold drawn tubes for cylinders ready to use



OD mm	WALL THICKNESS mm																			
	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	10	10.5	11	11.5	12
30																				
40																				
50																				
60																				
70																				
80																				
90																				
100																				
110																				
120																				
130																				
140																				
150																				
160																				
170																				
180																				
190																				
200																				

 Pneumatic cylinders H10

 Oil pressure cylinders H9

According to the standard:
EN 10305-2

Steel grade: E355

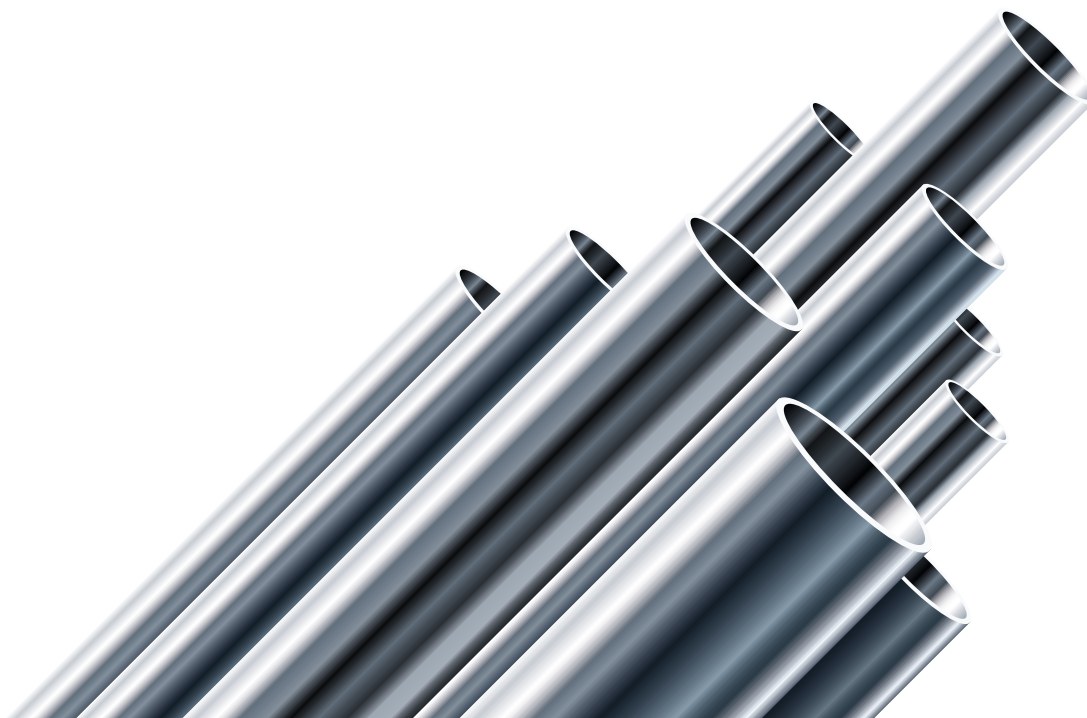
Delivery condition: +C

ID tolerance range:
according with ISO H

Roughness on the ID:
 $R_a < 0.8 \mu\text{m}$

Mechanical properties:
 $R_m > 640 \text{ N/mm}^2$;
 $R_s > 512 \text{ N/mm}^2$;
 $A_{p5} > 4\%$

Tests: visual, dimensional,
mechanical tests and
chemical analysis, ultrasound
check 100%



Steel Range



Steel grade	+C		+LC		+SR			+A		+N		
	R _m min N/mm ²	A(%)	R _m min N/mm ²	A	R _{eh} min N/mm ²	R _{eh} min N/mm ²	A	R _m min N/mm ²	A	R _{eh} min N/mm ²	R _m N/mm ²	A
E195	420	6	370	10	260	370	18	290	28	195	300÷440	28
E235	490	6	440	10	325	440	14	315	25	235	340÷480	25
E275	560	5	510	8	375	510	12	390	21	275	410÷550	21
E355	640	4	590	6	435	590	10	450	22	355	490÷630	22
25CrMo4	830	5	780	8	740	800	13	330	23	380	510÷660	23
26MnB5	780	7	720	9	650	750	15	310	25	360	550÷680	25
28Mn6	800	6	740	8	700	800	13	330	24	380	580÷690	24
34MnB5	820	6	770	8	710	820	12	350	23	400	610÷730	23

In addition to the steel grades noted above, it is possible to produce customized steel grades on request.





Metalfer

R&D CERTIFICATIONS

Metalfer's philosophy is founded on a deeply qualitative culture which extends to all company sectors.

Our certifications – ISO 14001, UNI ISO 9001 and IATF 16949 – have been obtained since many years, and while they are obviously essential requirements for operating in the sophisticated automotive sector, for Metalfer they represent just one part of the company's culture and outlook.

Staff training is deeply influenced by the complete knowledge of the end use of the tube, taking into account the related problems and the extra skills required in order to excel in each product application.

This is Metalfer's winning factor.

Major investments made over the years have enabled us to reach these objectives.

A computer network covers all company sectors, giving the entire group a single, unique interface that's able to give fast, efficient and productive answers, guaranteeing the complete traceability and certification.



CONTACTS

Metalfer - Headquarter

Via G. Frua, 3
25077 Roè Volciano (BS)- Italy
Tel. +39 0365 63381
Fax +39 0365 63054
info@metalferspa.it

Metalfer

Via Zanella, 2
20011 Corbetta (MI) – Italy
Tel +39 02 97 27 19 48
Fax +39 02 97 27 71 53
info@metalferspa.it

Metalfer Automotive

Viale Dei Mareschi, 19
10051 Avigliana (TO) – Italy
Tel +39 011 93 67 662
Fax +39 011 93 69 478
metalfer.automotive@metalferspa.it

Metalfer Polonia

43-300 Bielsko-Biala
Ul. Konwojowa 65
Tel +48 33 813 42 98
Fax +48 33 813 42 03
biuro@metalferpolsnia.com

Metalfer Automotive Morocco

Tangier Automotive City (TAC)
Tangier, Marocco
info@metalferspa.it

Metalfer

Via Fratellanza, 4
21049 Tradate (VA) - Italy
Tel +39 0331 849762
info.omer@metalferspa.it

Arvedi Metalfer do Brasil

Rodovia Engenheiro Ermenio de Oliveira
Penteado, 2435 - Joana Leite, Salto SP,
13329-903, Brasile/ CEP: 13329-903
Tel +55 11 4456-0999
vendas@metalferberasil.arvedi.it