

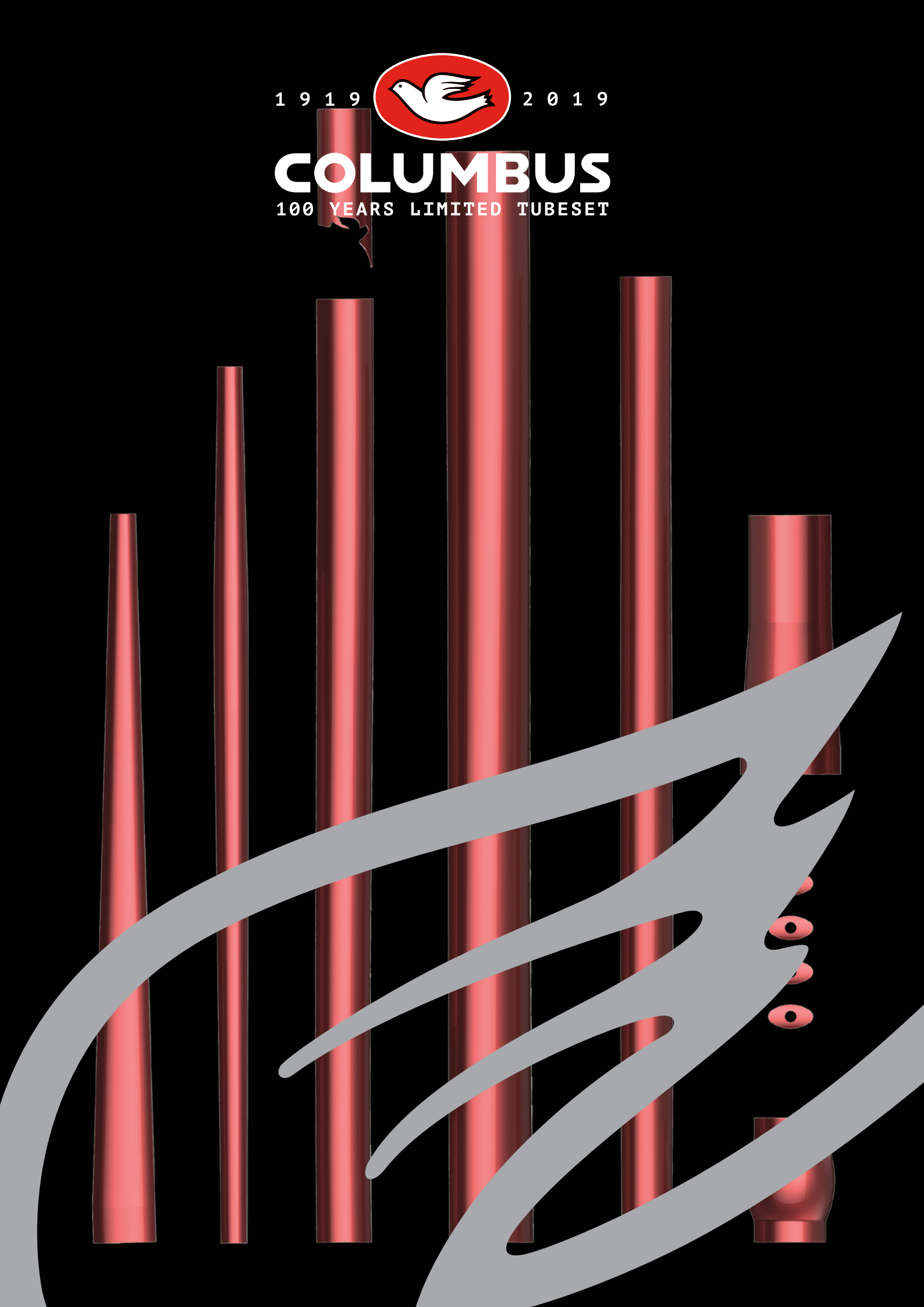
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**COLUMBUS**

100 YEARS LIMITED TUBESET



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## Columbus CENTO

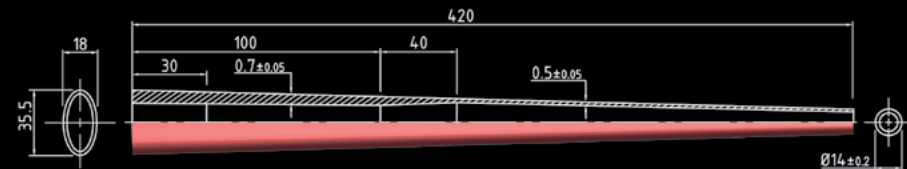
### The Soul of Cycling since 1919

A hundred years ago, in a post-bellum Milano, the journey of Columbus moved the first step of its long road. Seaplanes, motorcycles, racing-cars, rational furniture and cycling are just few of the fields where the company ambitions have been competing over the decades. It could be somehow challenging to tell which is connection that seams all these applications together. Actually, world's most mysterious and powerful feelings are often hard to explain.

After "cento" years of our lives lived fast forward in the same direction, we feel we've found the answers. Curiosity, attitude and passion for the innovation. The humble and exciting idea of making something faster, lighter, more functional. And exciting. Brands are made by people which are driven by visions. That's why we talk about "Soul" when we look at Columbus tubes, Eddy's breakaways, at Balbo's expeditions, at Enzo's cars and Breuer's chairs.

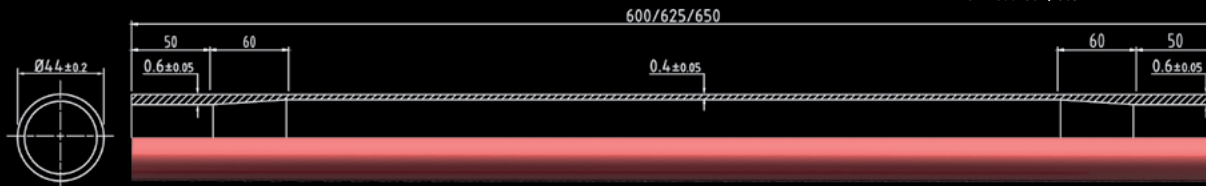
To celebrate this spirit, we decided to match the most iconic specifications of cycling evolution, together to the most updated trends, materials and technologies. CENTO is the tubeset that embodies this hundred-years adventure, as the sincere storytelling of an heritage, the wind on the eyes of the road ahead.





### CENTO CHAIN STAY

Special and previously unreleased unique continuous-tapered shape. Specifically designed to improve the stress distribution on the entire surface of the tube also improving its aesthetics and transitions in an organic way. Length 420mm | Oval 35.5x18mm | Ø14mm | Thickness 0.7/0.5mm



### OVERSIZED DOWN TUBE

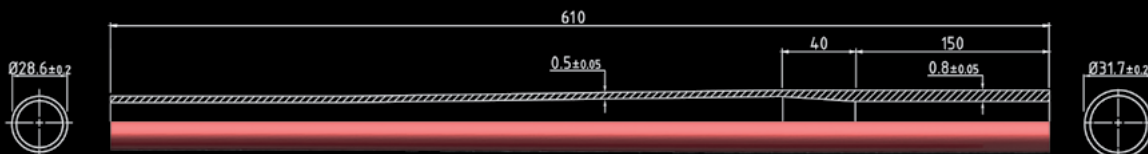
It's incredible but true. The classic "31.7mm 0.8/0.6/0.8mm" downtube for lugged frames stops the weight scale at the same value of this modern over-oversize evolution of it. However, way different are the mechanical properties, since the 44mm section is able to provide almost twice as much Inertia (and control) inside the frame equation. 3 length options, total control of frame weight and behaviour. 3 Lengths available: 600/625/650mm | Ø 44mm | Thickness 0.6/0.4/0.6mm



### TAPERED TOP TUBE

We already extensively explained the benefits of oversized and tapered geometries, so why spend more words on this self-explaining

game-changer solution? What we've been able to add, is the unprecedented choice of three sizes, allowing the builders to dramatically cut the weight on the frame regardless to the frame size. 3 Lengths available: 530/560/590mm | Ø 31.7/28.6mm | Thickness 0.6/0.4/0.6mm

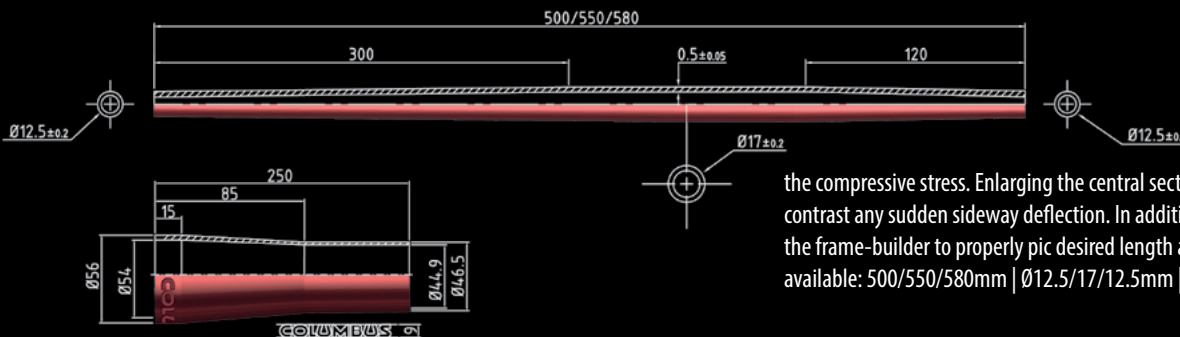


### TAPERED SEAT TUBE

The swaged design of this part (31,7mm at the BB / 28,6mm at the saddle-joint) allows to have an improved momentum of inertia in

such a crucial and stressed area. Its single-butted design is a tribute to the traditional lugged constructions, specially aimed to cut the weight of the second reinforce, while keeping adequate mechanical properties in the BB area, where the oversize diameter and additional thickness are located.

Length 610mm | Ø 31.7/28.6mm | Thickness 0.8/0.6mm



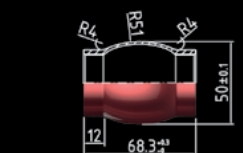
### BICONICAL SEAT STAY

Inside the bicycle frame, the seat stays are often subject to the so called "Instabilità Euleriana" also known as buckling risk, caused by

the compressive stress. Enlarging the central section of this part better allows the tube to contrast any sudden sideways deflection. In addition, the three lengths available consent the frame-builder to properly pick desired length according to the frame-size. 3 Lengths available: 500/550/580mm | Ø12.5/17/12.5mm | Thickness 0.5mm

### TAPERED LIGHTWEIGHT HEADTUBE

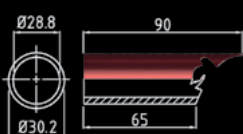
The highly acclaimed Columbus 46/56mm swaged headtube, in a totally new and incredibly light version. Cold drawing, CNC machining and hammered-tapering process, all finalized to provide reliability, lightness and precision. The 1mm increased thickness in the downtube area ensures proper stability while riding (and welding), while the 0,8mm upper body reduces the overall weight of 65 crucial grams. Length 250mm | Ø 46/56mm | Thickness 1/ 0.8 mm



### BULGED BOTTOM BRACKET

Tradition, class and practicality of cylindrical BSA BB shells, meets the modern benefits and aesthetics of oversized shapes.

The result is an unseen design, which the wisest framebuilders will know how to perfectly introduce in the frame, providing extra welding-areas to the oversized downtube and chain-stays.



### LASER CUT SEAT SLEEVE

Specifically designed to match the single-butted tapered seat-tube, this part is the modern evolution of the classic lug, providing the needed thickness (and reinforce) where the riding and welding stress are concentrated. Also, the possibility to position it at the desired height, avoids the need of creating multiple seat-tube lengths. Finally, the profile of the iconic Columbus dove laser-cuts the side-view of the sleeve, reducing its weight improving the form according to the function.



### COLUMBUS OVAL BOTTLECAGE REINFORCES

Just few cyclists (and builders) know how to ride up to the origin of the Columbus logotype.

Beside the famous dove-shaped logo, with quite intuitive reasons, the oval-shaped outline is the result of finely tuned mathematics. With its eight bending radius, and the peculiar height-to-width ratio, this is the oval-figure that better reassembles the mechanical properties of the round shape, adding the benefits of locally-oriented geometries.



## Omnicrom

OMNICROM is the culmination of a long journey, began more than 30 years ago, started with the collaboration of Columbus with the Institute de Soudure de Paris.

It all starts with the latest low-carbon Chromium-Molybdenum Steel alloys used today in the aerospace industry matched with the benefits of Vanadium and a highly controlled alloy composition.

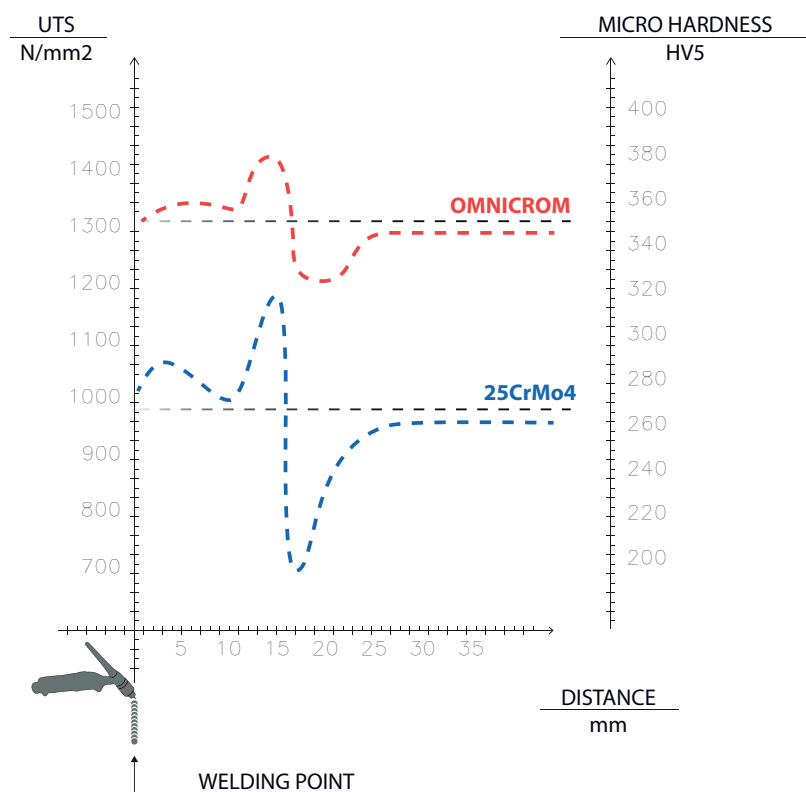
OMNICROM alloy is refined and refuse, without any inclusion, with a highly controlled crystalline structure that ensures unprecedented welding experience, with a smooth and predictable behaviour.

Moreover, the centenarian experience of Columbus in the cold-drawing plastic transformation, is able to furtherly improve OMNICROM's impressive mechanical properties, with increased yield strength and resilience, for an enhanced and long lasting riding experience.

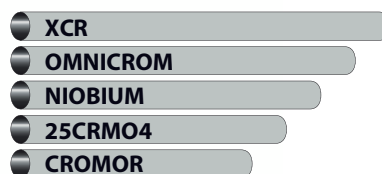
Mechanical characteristics: UTS=1300MPa,  $Y_s \geq 920$  MPa,  $A_{p5} > 15\%$ .

Suggested material for TIG welding: OK TIGROD 13.12 (AWS 5.28 ER 80S-G)

Suggested material for brazing: Castoline Silver Alloy 38230



### MECHANICAL CHARACTERISTICS COMPARISON OF COLUMBUS TUBES



THE VALUES ARE FOR HOMOGENEOUS SECTIONS OF COLD-DRAWN STRESS-RELIEVED TUBING FROM THE MAIN TRIANGLE

	N/mm <sup>2</sup>
XCR	1450
OMNICROM	1300
NIOBIUM	1250
25CRMO4	900
CROMOR	750

The new Omnicrom alloy is featured on all the Columbus top-range main-triangles, including Spirit, Spirit HSS, SL, MAX, and Life tubesets.



# COLUMBUS

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