



Cogne Acciai Speciali Group

Hydrogen

Stainless Steels and H₂: joining forces in the climate race



Looking at the hydrogen value chain a variety of components are needed such as valves, sensors, shafts, fittings.

These components require high performances to guarantee optimal functioning and safety of the systems, especially guaranteeing resistance to:

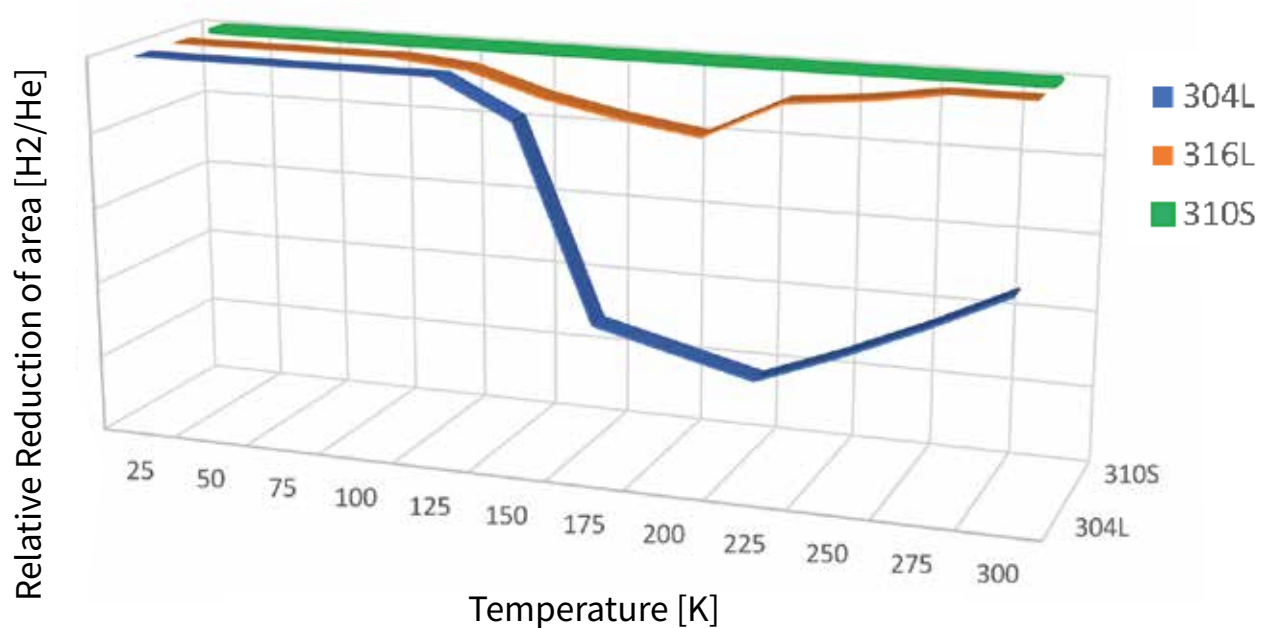
- Corrosion

- Wear

- H₂ embrittlement: In several applications the materials are exposed to cryogenic temperature in direct contact with H₂, in these operating conditions all materials, stainless steels included, are subjected to H₂ embrittlement measured as HE/RRA*

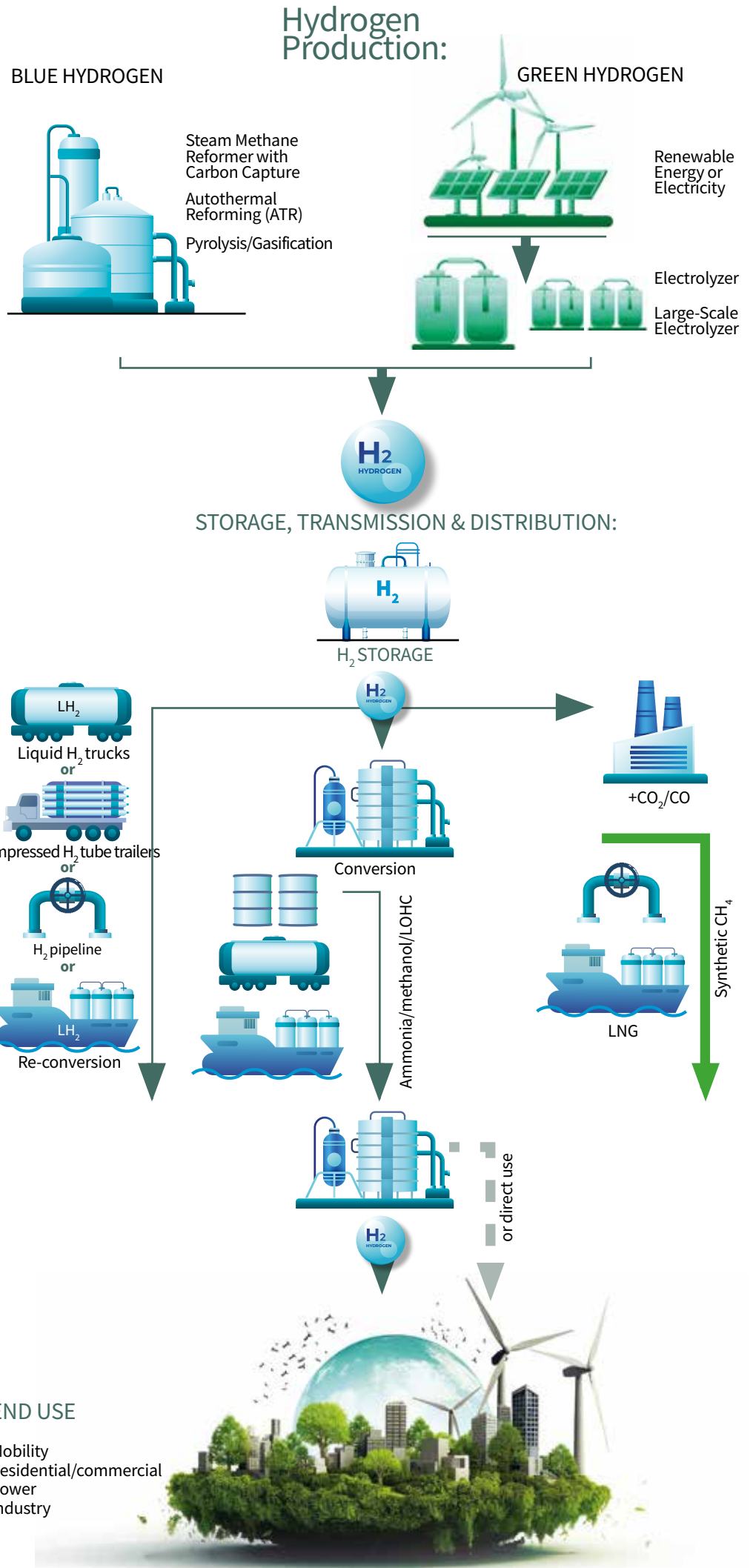
*HE=hydrogen embrittlement / RRA=relative reduction area

H₂ Embrittlement at 10 bar



The Value chain

Hydrogen represents one of the most promising solutions to fight climate change and allow for a smooth green energy transition. The solution to produce green hydrogen from renewable sources is of paramount importance from a technological, environmental, and economic point of view.



The use of hydrogen for energy production is destined to grow, while it is also expected an increase of investments for “green H2” solutions. Consequentially the demand for stainless steels dedicated to components for this technology should increase.

To face specific performance of the components used in the H2 value chain, Cogne Acciai Speciali offers different stainless steel grades for all the production range (wire rod, bars), manufactured with production cycles designed to guarantee the highest quality standards required by international standards and customer specific requests.



Hydrogen

	ROUNDS							HEXAGONS
	rolled and reeled	peeled and reeled	rough peeled	turned	cold drawn	rough ground	centreless ground	cold drawn
Size mm	6-100	20-101.60	102-340	341-1200	4-25,4	26-60	4-80	11-27
Tolerance	EN10060/ DIN 1013	ISO I.T. 10/I.T. 12	EN10060/ DIN 1013	EN10060/ DIN 1013	ISO I.T. 9	ISO I.T. 9	ISO I.T. 9/I.T. 6	ISO I.T. 11
Surface	rolled	reeled	peeled	turned	cold draw	rough ground	centr. ground	cold drawn
Roughness		2.5 μ Ra	5 μ Ra	10 μ Ra	1.25 μ Ra	1.2 μ Ra	0.3/0.8 μ Ra	1.6 μ Ra
Straightness	2‰	1‰	2‰	1,5‰	0.8‰	0.5‰	0.2/0.5‰	1‰
Heading	cold heading at 1 or 2 extremities upon request							
Chamfering	at 1 or 2 extremities at 30°-45° upon request up to 100 mm							
Standard length	3000 to 6000 mm	3000 to 6200 mm	4000 to 6000 mm	3000 to 6000 mm	3000 to 3200 mm	3000 to 3200 mm	3000 to 3200 mm	3000 to 3200 mm
Tolerance on length	∅ ≤ 25mm + 100; ∅ > 25mm + 200							

N.B.: special lengths upon request

Special finishing processes: products for further galvanising
Such as chromium plating, nickel plating etc.



One Cogne: channeling the power of together to create a better future.

Cogne Acciai Speciali renews and forges its commitment towards people, the environment, its local community and respect for human rights.

Cogne grade	EN/DIN/UNI	W.N.	AISI/ASTM/ASME
FERRITIC GRADES			
430/4	X6Cr17	1.4016	430
430F3	X6CrMoS17	1.4105	430F
430F6	X6CrMoS17	1.4105	430F
4003	X2CrNi12	1.4003	
AUSTENITIC GRADES			
F304L1	X2CrNi 18-9	1.4307	304L
F316L	X2CrNiMo 17-12-2	1.4404	316L
316LMH*	X2NiCrMo 18-14-3	1.4435	
321/3	X6CrNiTi 18-10	1.4541	321
310S	X8CrNi25-21	1.4845	310S
350	X2CrNiMnMoNnb 21-16-5-3	1.3964	XM19
MARTENSITIC GRADES			
410/OG	X12CrS13	1.4005	416
420C4	X46Cr13	1.4034	
415M/415M3	X4CrNiMo 16-5-1	1.4418	
PRECIPITATION HARDENING			
630OG	X5CrNiCuNb 16-4	1.4542	630
SF286	X6NiCrTiMoVb 25-15-12	1.4980	660
DUPLEX			
329A/1	X2CrNiMoN22-5-3	1.4462	F51

* Ni > 13% Ni equivalent > 28,5



Discover
Cogne World



- PRODUCTION&DISTRIBUTION
- DISTRIBUTION

Headquarter



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