

HDx™

Ca (Pure Calcium)

affival®

An OPTA Group Company



The “thermos” design behind Affival HDx cored wire allows calcium to react deeper in the ladle for the most cost-effective results and superior inclusion morphology.

Our unique casing consists of an inner steel strip wrapped in paper insulation and an outside steel casing. The insulating layer allows for a deeper penetration of calcium into liquid steel, which **increases Ca recovery** while reducing reactivity compared to conventional pure Ca or Ca-mix cored wires.

Affival HDx™ wires offer the best alternative between solid calcium treatments and traditional Ca-mix cored wires. Affival developed HDx™ through extensive research and extensive field treatment experience. The data demonstrated that HDx™ wires enable reliable penetration and assimilation into liquid steel while preserving secure wire handling.

With pure-calcium cores, our versatile HDx™ wires have a steel sheath and an insulation layer which contributes to **higher and more consistent recoveries**. The wires require only routine handling and provide unlimited cage to cage connectivity.

Calcium treatment of liquid steel is crucial to transforming solid alumina inclusions into liquid calcium aluminates. The resulting modification of composition and morphology of oxide and sulfide produces several advantages, including:

- Improving steel castability through reduction of nozzle clogging resulting from aluminum deoxidation
- Globularization and dispersion of oxide and sulfide inclusions to improve steel ductility and strength
- Improvement of steel cleanliness by removing alumina inclusions from the bath
- Reduction of inclusion-related surface defects in billet, bloom, and slab castings
- Prevention of inclusion formation during solidification

Type of product:

Pure Ca

Metallurgy:

Ca treatment

Melting point (Ca):

839°C / 1558°F

Boiling Point (Ca):

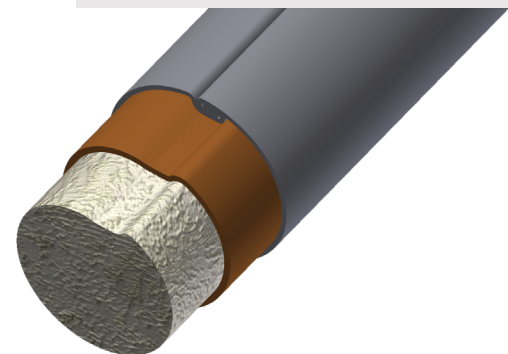
1484°C / 2703°F

Density at 20°C:

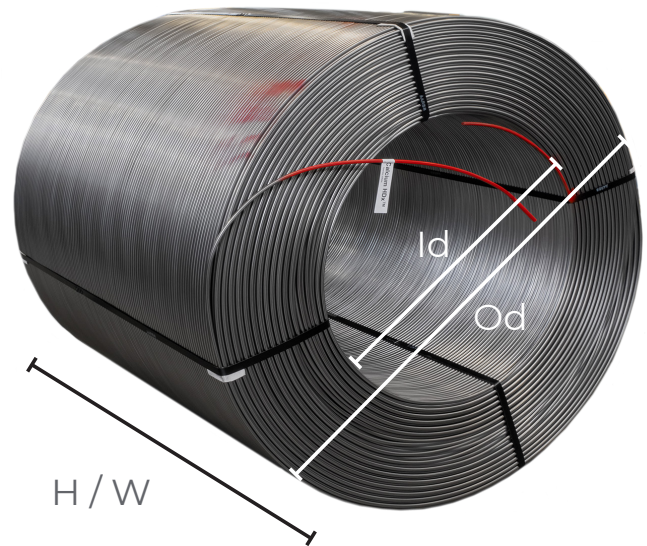
1.53 g/cm³

Percentage of Ca:

98.5-100%



Affival can deliver coils either horizontally or vertically, depending on the injection setup. Coils are connectable for non-stop injection. Packaging includes multiple options for coil size, pallet type, protective wrapping, and reels.



HDx™ Product	A Cage	J Cage	W Cage
Wire diameter (mm)	9.5; 10.8	9.5; 10.8	9.5; 10.8
Calcium metric weight (g/m)	70; 85	70; 85	70; 85
Outside diameter (in)	44	44	52
Inside diameter (in)	20	20	29
H / W: Height / Width (in)	29	46	45