

ESSGE-PLAST AB

Essge-Plast Non Contact insulation System **”ESSGE NCS”**

One of the markets most effective solutions to minimize Corrosion Under Insulation, (CUI)

ESSGE NCS is a reliable, tested and fast mounted system with superior ability to reduce Corrosion Under Insulation on pipes and tanks.



The distance-rings unique design makes it possible to maintain the distance between the pipe and insulation during assembly, without using tools.

The distance-rings are made of heat resistant polymers, are mounted without the risk of damaging the coating, paint or any heat-increasing cables.

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The problem with corrosion under insulation

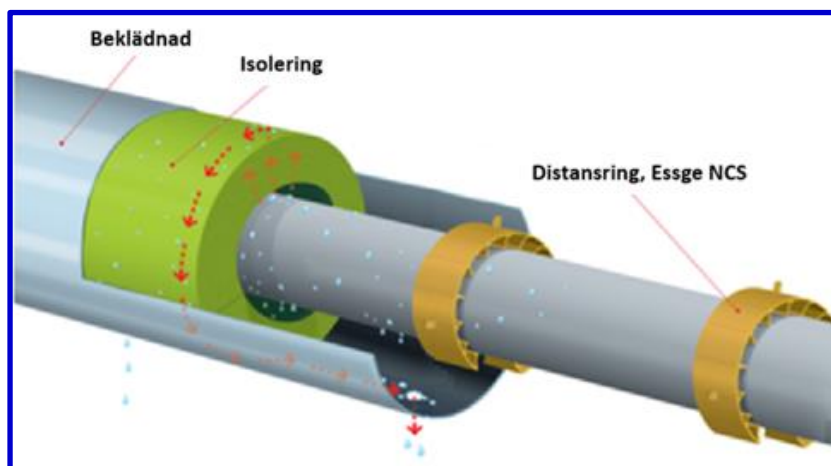
Pipes that are operating at high temperatures are usually insulated to prevent heat losses, as well as health and safety reasons. Water penetrating and saturating the thermal insulation can quickly lead to corrosion. This problem with corrosion under insulation can occur on both carbon based steel, stainless steel and cast iron.

Within the industry, "corrosion under insulation" accounts for 10% of the total maintenance budget and is the most common cause of unplanned and costly downtime, that is stopping operation. Between 40% and 60% of pipeline maintenance costs are related to CUI. The effect of spaced insulation has been tested and recommended in the Norwegian gas and oil sector to extend the lifetime of pipe installation. [1][2]

"A cost effective solution is Essge NCS"

Advantages:

- Reduces the cost of maintenance and repairs.
- Increases the lifetime of the facilities.
- Saves a lot of time for installation.
- No tools are needed for mounting.
- Have a positive effect on thermal insulation.
- Improves sound insulation – less noise.
- Reduces risk of leakage, (cost & security).
- Low costs for assembly of the product.
- Manufactured with a low climate impact.



The space between the insulation and the pipe ensures a continuous airflow that keeps the surface dry from condensation. Available in low and high- temp material.

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Technical specification

Property	Value	Comment
Maximum operating temperature	HT (High temperature) 160° C MT (Mid-range Temp.) 100° C	HT short-term temp 219° C
Flammability	5V according to UL 94	Lowest possible for polymerers
Toxicity and Smoke density	Class F1 acc. to NF F16-101	Polymer allowed to be used in passenger trains
Number of spacers required	3 pcs/meter pipe	CC distance 330 mm, support in joints

Sizes

ESSGE NCS are named after the pipe sizes they cover + temperature range covered, (Ex. ESSGE NCS 18-25 HT, used for pipes with outer diameter 18 to 25 mm and withstands temperatures up to 160 degrees C).

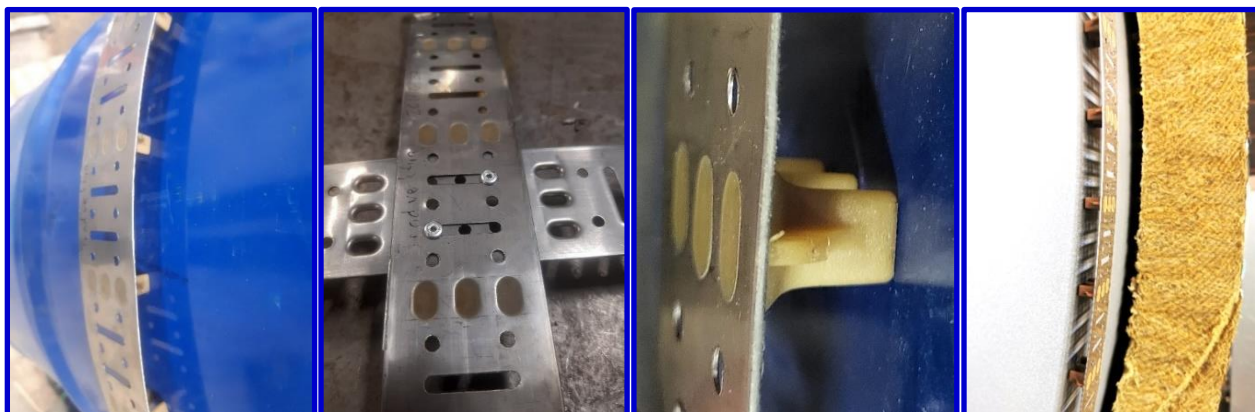
Sizes available	18-25	28-38	42-57	60-80	83-114	121-163	169-222	230-318	BAND
Siuted for pipe (diam. In mm)	18-25	28-38	42-57	60-80	83-114	121-163	169-222	230-318	>318
Airgap (dist between pipe and insulation in mm)	15	16	16	18	18	18	18	16	15

Insulation dimensioning

Inner diameter of pipe insulation capsule shall be a minimum of pipe diameter + airgap * 2. (Ex. Pipe diameter 75 mm means that ESSGE NCS 60-80 is required with 18mm airgap. Innerdiameter of insulation capsule will be minimum $75 + (18*2) = 111$ mm)

Essge NCS-bands

Essge NCS Bands is the solution to CUI on large pipes and tanks and much like the ESSGE NCS rings, have a low risk of damaging coating, paint and cables. The bands are made of spacers, moulded into an AISI 316L stainless steel bands, to prevent CUI. Assembly is made easy thanks to pre-made slots used with stainless steel rivets, for joints and fasteners. Essge NCS-band is normally delivered in 10 meter rolls but can be made in custom lengths.



[1] Haraldsen, K.: "Corrosion under insulation –testing of protective coating systems at high temperature", Paper no 10022, NACE Corrosion 2010.

[2] Kvilhaug F.A.: "How do different insulation solutions affect corrosion under isolation (CUI)?" Bergen, Norway, Overflate 2014

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