

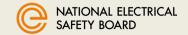
NKS ATEX Joint Cross Border
Market Surveillance
Campaign on cable glands

#### Campaign target – Cable glands

- Widely used in many applications
- Plays a major role in safety of installations
- Different sizes and materials







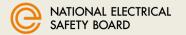
#### The Campaign

- Schedule: The campaign kicked off in the spring of 2022 and were finalized during autumn of 2023
- Participants: Finland, Norway and Sweden
- In total 18 different products were purchased and tested
- All products tested at same test lab
- Formal requirements checked by MSAs



#### Sampling

- The MSAs paid special attention to products
  - manufactured in its own country
  - the importer of products was located to its country
- Only d, e and t protection
- Sizes limited to M20 and M40



## Formal requirements - Traceability

Table 1 – Compliance with traceability requirements			
Requirement of traceability	Number checked	Number compliant	Compliance (%)
Identification requirements (type designation)	18	14	77
Name of the manufacturer	18	14	77
Address of the manufacturer	18	1	5
Name of the importer (if needed)	-		
Address of the importer (if needed)	-		



## Formal requirements - CE marking

Table 2 – Compliance with requirements of the CE marking				
Requirement of CE marking	Number checked	Number compliant	Compliance (%)	
CE-mark affixed	18	14	94	
Layout of CE marking	17	14	82	
Height of CE marking	17	0	0	
NB number	17	17	100	



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# Formal requirements – ATEX markings

Table 3 – Compliance	with ATEX markings
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Requirement of traceability	Number checked	Number compliant	Compliance (%)
Year of construction	18	4	22
Specific marking of explosion protection (, equipment group and category)	18	12	66
Letter 'G' and/or the letter 'D	18	12	66
Other essential safety use marking	18	10	56



# Formal requirements - DoC

Table 4 – Compliance with DoC requirements				
Number of EUT assessed DoC available DoC not made available DoC with no issues compliance *				
18	17	1	10	56



## Formal requirements – Language requirements

Table 6 – Compliance with language requirements of instructions				
Number assessed	Compliant Manual	Overall instruction compliance (%)		
18	4	22		



## Testing - Resistance to impact test

Table 7 – Compliance with Resistance to impac	test
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Type of product	Number checked	Number compliant	Compliance (%)
Metal cable gland (M20)	6	6	100
Plastic cable gland (M20)	5	0	0
Plastic cable gland (M40)	2	2	100
Blanking element (M20/M40)	4	4	100



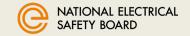
# Testing – Visual IP test

Table 8 – Findings of Visual IP test		
Findings	Number of findings	
No issues found	7	
Sample was provided with a flat gasket, but instructions did not specify tolerance for the clearance hole, likely not an issue due to large margin in flat gaskets	2	
Sample was provided with an O-ring, but instructions did not specify tolerance for the clearance hole	4	
Sample did not have any gasket, but the instructions mention a specific gasket is required for dust applications according to EN 60079-31:2014	1	
Sample did not have any gasket and the instructions do not mention a gasket needs to be used in dust applications according to EN 60079-31:2014	3	



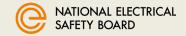
# Testing - Instructions

Table 9 – Compliance with Instructions requirements		
Instructions requirement	Number compliant	Compliance (%)
Minimum and maximum diameter of the cable of circular cables	17	100
Minimum and maximum dimensions of non-circular and metal-sheathed cables	N/A	N/A
Tightening process of the compression element, including the tightening torque (only gable glands)	11	85
For compound-filled glands, details on the installation of the filling compound	N/A	N/A
For compound-filled glands, the maximum diameter over cores of the cable that the gland is intended to accept and the maximum numbers of cores that can pass through the compound	N/A	N/A



# Testing – Instructions

Table 9 – Compliance with Instructions requirements			
For entries into enclosures: Threaded entries			
Thread size	15	88	
Tolerance class	5	29	
Enclosure material limitations	14	82	
Enclosure interface sealing method	14	82	
Maximum surface roughness of the enclosure face for sealing	4	24	
Thickness range of the enclosure wall (minimum)	8	47	
Thickness range of the enclosure wall (maximum)	3	18	
Perpendicularity	5	29	
Permitted use and location of any earth tags	-		
For entries into enclosures: Clearance holes			
Hole dimensions, including tolerance	9	53	
Enclosure material limitations	N/A	N/A	
Thickness range of the enclosure wall (minimum)	7	41	
Thickness range of the enclosure wall (maximum)	3	18	
Enclosure interface sealing method	14	82	
Maximum surface roughness of the enclosure face for sealing	4	24	
Perpendicularity	5	29	
Cable gland securing details	15	88	
Permitted use and location of any earth tags	-		



#### Findings

- Only 56 % of the products had a correct Declaration of Conformity.
- 78 % of the products lacked instructions of use in correct language. This
  means that the installer may not fully understand how to install and use
  the gland safely.
- No plastic cable glands of smaller size (M20) passed the impact test. The reason could be to the lack of correct instructions.
- Lack of clear instructions on how to mount and use the glands in different applications, with or without gasket.



#### Conclusions

- The manufacturer needs to ensure that sufficient instructions of use, in the correct language is to be supplied with the product. Otherwise, the product cannot be used safely.
- The installer must be observant and read the user instructions of use carefully. It is easy to miss a needed gasket or any other detail that can make a big impact on the overall safety of the electrical installation. If instructions are missing, the electrician must report this to the manufacturer.
- There are some unclear issues with what the directive states as needed in instructions, the standard and Notified bodies. These differences are to be discussed further between the involved parties.



#### For more information

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