



# A Guide to Understanding SPW 500

Selecting the correct bedding mortar for frames, chamber covers and gratings located within the carriageway.

A guide to understanding Transport Infrastructure Ireland specification CC-SPW-00500 (7.11) Published September 2024.







SPW 500 is the new specification from TII; designed to help you build a stronger infrastructure.





# Selecting the correct bedding mortar is the key

The number 1 cause of the early failure of carriageway ironwork is the use of an incorrect bedding mortar.

## But here's the good news

The introduction of SPW 500 identifies and sets out the specification for the correct type of bedding mortar; for carriageway ironwork in Ireland.

TII Specification CC-SPW-00500 (7.11) states that covers and gratings located within the carriageway, hard shoulder or hard strip shall be set in a mortar with the following properties:

1. The material shall be non-shrink
2. The material shall have a minimum workable life of 15 minutes
3. The compressive strength of the material shall exceed  $30\text{N/mm}^2$  in 3 hours
4. The tensile strength of the material shall exceed  $5\text{N/mm}^2$  in 3 hours



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We understand this problem is very challenging, complex and costly, but working to eliminate unnecessary ironwork failure is important to building a stronger infrastructure in Ireland.





SPW 500 is a catalyst to safer highways in Ireland; setting a new industry benchmark



# You can now avoid that sinking feeling and create safer highways

Common issues from collapsed ironwork can be:

1. A dangerous hazard and unwelcome disruption to road users.
2. Heightened defect and claim liability for the overseeing organisation.
3. Expensive costs for repair, traffic management, plant, labour and materials.

Here's the background to this new specification:

- Research conducted by Highways Agency identified the primary cause of the early failure of carriageway ironwork was due to the incorrect type of bedding mortar being used. Simply put, higher performance bedding mortars are needed to withstand modern traffic volumes on carriageways.
- Through additional university research and detailed testing, 4 performance properties were identified; and have been widely adopted by national roads authorities across the world, including Transport Infrastructure Ireland.

Thankfully the solution is simple and straightforward.



“ By selecting and using a mortar with the 4 key properties identified, you are building a stronger infrastructure that is compliant with TII's SPW 500 Specification.



SPW 500 enables a fresh opportunity to innovate and embrace new partnerships



# Applying the new specification across our busy roads network has never been easier

## Inform, innovate and train

Raising awareness, partnering with industry stakeholders and training contractors and local authorities on the correct mortar selection, mix and application is key.

- An exciting innovation emerging in this sector is the ability to have high performance mortars that not only exceed the 4 properties identified in the specification, but also have the option of a coloured mortar to help workers, supervisors and inspectors to identify that a compliant mortar is being used to set the ironwork on the carriageway.
- Annual training on the correct mortar selection, mix and application is important to help inform and support workers and engineers responsible for the building and maintenance of carriageway ironwork.
- Confidence and assurance in every reinstatement is crucial and new initiatives are available such as 10 year guarantee schemes are now in the market.

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By working together, innovating and supporting stakeholders we can build a stronger infrastructure in Ireland.

# We're here to help you build a **Stronger** **Infrastructure** in Ireland.

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## Download

Transport Infrastructure  
Ireland specification  
CC-SPW-00500



## Watch the Video

to see how you can now  
avoid the early failure of  
carriageway ironwork



## Request Training

and we will show the you  
best mix and application  
of a compliant mortar

