Electrical Mast of Intermediate Metal Conduit

Condition

RMC (rigid metal conduit) used to be the requirement for electrical service masts. Now Rocky Mountain Power allows either IMC (intermediate metal conduit) or RMC if allowed by the authority having jurisdiction.

Question

Is IMC allowed by Salt Lake City for electrical service masts?

Building Code Sections

2020 NEC Articles 230.28, 342 and 344.

2015 IRC E3604.5.

Interpretation

IMC is allowed for electrical masts.

Discussion

Per Rocky Mountain Power Electrical Service Requirements (ESR) Section 4.2.2:

> Where the mast has service cable attached to it, the mast shall be Rigid Metallic Conduit (RMC), or if allowed by the authority having jurisdiction (AHJ), Intermediate Metallic Conduit (IMC).
>
> https://www.rockymountainpower.net/content/dam/pcorp/documents/en/pp-rmp/electric-service-requirements/ESR_FULL.pdf.

The NEC requires the electrical service mast to be of adequate strength. It does not require a specific conduit type. IMC is covered by NEC 342, and RMC by NEC 344. Both are permitted for locations:

- Under all atmospheric conditions and occupancies
- In corrosive environments
- In wet locations
- Where subject to severe physical damage

Guying is required regardless of the mast material when:

- Needed to withstand safely the strain imposed by the service-drop or overhead service conductors. NEC 230.28(A) and IRC E3604.5.
- A coupling is within 8 feet of the weatherhead. ESR 7.8.2#6
- The point of attachment is more than 36 inches above the roof line. ESR 7.8.2#7

Per the Steel Tube Institute:

> GRC is a common industry acronym used for galvanized rigid conduit. GRC is the same product as UL-6 electrical rigid metal conduit – steel (ERMC-S) and rigid metal conduit (RMC) covered in NEC Article 344, which also covers aluminum RMC, stainless RMC and brass RMC. IMC is covered in Article 342 and is a steel galvanized conduit just like GRC, but it is made of a different type of steel with a thinner wall thickness. The wording in Article 342 and Article 344 is identical; therefore, both products are permitted in exactly the same installation applications. IMC is slightly stronger due to the different types of steel. However, for some reason, there are utilities that only permit the Article 344 rigid metal conduit for service masts.

Generally, they will change their installation specification when they are made aware of these facts. You may quote me, and I will be happy to answer any additional questions you have.

https://steeltubeinstitute.org/resources/imc-vs-grc-for-service-masts/.

Important notes

Last reviewed: 03 Nov 2022.

This code interpretation is provided to help applicants understand the building codes. It represents the opinion of the Salt Lake City Building Official in relation to a specific project at the time it was rendered. Per International Building Code Section 104.1, such interpretations shall be in compliance with the intent and purpose of the building code, and they shall not have the effect of waiving requirements specifically provided for in the building code. Therefore, do not assume that any interpretation would also apply to your project. Always consult with a Salt Lake City building plans examiner for specific interpretations as needed regarding your project.