

附属書 5 減肉の評価区分Ⅱの供用適性評価の全体構成と根拠

<全体の構成>

- ① 直管の単独の減肉
  - 1) 外表面の減肉
  - 2) 内表面の減肉
- ② 直管の複数の減肉
  - 1) 内表面と外表面で重なり合わない複数の減肉
  - 2) 内表面と外表面で重なり合う複数の減肉
- ③ 曲げ管の減肉
  - 1) 内圧+面内曲げ
  - 2) 内圧+外面曲げ
- ④ ノズル近傍の減肉

<作用する荷重>

内圧及び／又は地震などによる外部曲げモーメント (①～④共通)

<根拠となる論文>

- ① 直管の単独の減肉
  - 1) 外表面の減肉
    - ・ Konosu, S., and Mukaimachi, N., 2008, “Plastic Collapse Assessment Procedure for Vessel With Local Thin Area Simultaneously Subjected to Internal Pressure and External Bending Moment”, ASME JPVT Vol.130, pp. 011207
    - ・ Konosu, S., Kano, M., Mukaimachi, N., Komura, H., and Takada, H., 2009, “Plastic Collapse Load for Vessel With External Flaw Simultaneously Subjected to Internal Pressure and External Bending Moment—Experimental and FEA Results,” ASME J. Pressure Vessel Technol., 131, p. 021206.
    - ・ Mukaimachi, N., and Konosu, S., 2009, “Plastic Collapse Assessment Procedure for Vessels With Deep Local Thin Area Subjected to Internal Pressure,” Nucl. Eng. Des., 239, pp. 1171–1179.
  - 2) 内表面の減肉
    - ・ Konosu, S., and Oyamada, K., 2007, “Development of Simplified Plastic Collapse Assessment Procedure for Vessel With Internal Surface Flaw,” ASME PVP2007-26437.
- ② 直管の複数の減肉

1) 内表面と外表面で重なり合わない複数の減肉

- Konosu, S., 2009, “Assessment Procedure for Multiple Volumetric Flaws in p-M Diagram,” ASME J. Pressure Vessel Technol., 131, p. 031407.
- Konosu, S., Kano, M., Mukaimachi, N, and Kanamaru, S., “Validity of Assessment Procedure in p-M Method for Multiple Volumetric Flaws”, ASME PVT, p. 021402

2) 内表面と外表面で重なり合う複数の減肉

- Konosu, S., and Miyata, H, 2011, “Assessment of Overlapped Internal and External Volumetric Flaws in p-M Diagram”, ASME J. Pressure Vessel Technol. 133, p. 031208

③ 曲げ管の減肉

1) 内圧+面内曲げ

- Oyamada, K., Konosu, S. and Ohno, T., 2012, “Development of a plastic collapse assessment procedure in the p-M diagram method for pipe bends with a local thin area under combined internal pressure and external in-plane bending moment,” NED, 247, pp.42-57.

2) 内圧+面外曲げ

- Oyamada, K., Konosu, S. and Ohno, T. “Plastic collapse assessment procedure in p-M Diagram method for pipe bends with a local thin area under combined pressure and out-of-plane bending moment”, ASME PVP2012-78207

④ ノズル近傍の減肉

- Konosu, S., Ogasawara, K., and Oyamada, K., “Procedure for Plastic Collapse Assessment of a Local Thin Area near Vessel and Nozzle Intersections Subjected to Internal Pressure and External Loadings”, ASME PVP2015-45538
- Oyamada, K., Konosu, S., Miyashita, T., Ohno, T., and Suzuki, H., “Validity of procedure for plastic collapse assessment of a local thin area near vessel and nozzle intersections subjected to internal pressure and external loading”, ASME PVP2015-45512
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