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Research on burst pressure for thin-walled elbow and spherical shell made of strength differential materials

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Abstract

This paper derived the computational formulae of burst pressure for thin-walled elbows and thin-walled spherical shells with arbitrary curvatures, using the finite deformation theory and the unified strength theory, and considering the intermediate principal stress, the strength disparity effect of materials and the strain-hardening effect. The quantita and thin-walled s ed how the strain-ha the stren affected the burst e burst pressure e with different ty design and inte

Keywords: Unified strength theory | Thin-walled elbow | Thin-walled spherical shell | Burst pressure | SD effect | Intermediate principal stress

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