

CLAIMS

1. A unitary piece dual lock split washer comprising:
a single piece body made of a resilient and flexible material, the body having an inner
5 circumferential edge, a radially outer peripheral edge and a split extending between
the inner and out edges to provide the body with first and second ends; and
a joint structure integrally formed with the first and second ends, the joint structure
having an engaged state wherein the first and second ends mutually engage each
other to form a substantial seal across the split, and a disengaged state wherein the
10 first and second ends can be moved apart to create an opening of a variable size and
shape in the body to enable the washer to be fitted about a member, the joint structure
having a first locking mechanism and a second locking mechanism each locking
mechanism having respective parts on the first and second ends and wherein the parts
of the second locking mechanism are only engageable after the parts of the first
15 locking mechanism are fully engaged.
2. The split washer according to claim 1, wherein the joint mechanism comprises two
radially spaced fingers extending circumferentially from the first end and two radially
spaced fingers extending circumferentially from the second end and wherein when in the
20 engaged state one finger of each end fits between the radially spaced two fingers of the
other end.
3. The split washer according to claim 2, wherein the first locking mechanism has a first
part on a first of fingers extending from the first end and a second part on one a first of
25 the fingers extending from the second end.
4. The split washer according to claim 3, wherein a first part of the second locking
mechanism is carried on a second of the fingers extending from the first end.
- 30 5. The split washer according to claim 3 or 4, wherein a second part of the second
locking mechanism is on the first finger extending from the second end.
6. The split washer according to any one of claims 1-5, wherein one of the first and
second parts of the second locking mechanism is a protrusion extending in a generally
35 radial direction and another other of the first and second parts of the second locking
mechanism is a recess for receiving the protrusion.

7. The split washer according to claim 6, wherein the first part of the second locking mechanism is the protrusion and the protrusion is on the second finger extending from the first end.
- 5 8. The split washer according to claim 7, wherein the protrusion is arranged to: bear against the first finger extending from the second end and flex in a generally radial outward direction prior to the first locking mechanism becoming fully engaged while the first and second ends are being moved toward each other; and, be in radial alignment with the second part of the second locking mechanism wherein the second finger
10 extending from the first end is capable of flexing in a generally radial inward direction to engage with the second part of the second locking mechanism when the first locking mechanism is fully engaged.
9. The split washer according to any one of claims 1-8, wherein the first part of the first
15 locking mechanism comprises at least one engaging portion, and the second part of the first locking mechanism comprises at least one complementary engaging portion.
10. The split washer according to claim 9, wherein the least one engaging portion comprises a first plurality of teeth, and each of the at least one complementary
20 engaging portion comprises a second plurality of teeth.
11. The split washer according to any one of claims 1-10, comprising opposite first and second parallel radial planar faces wherein opposite sides of the body and the joint structure lie on respective ones of the parallel radial planar faces.
- 25 12. The split washer according to any one of claims 1-11, wherein when the first and second locking mechanism are engaged, the inner circumferential edge has a substantially constant radius R_i and the radially outer peripheral edge has a compound shape of a portion of a circle and a radially extending tab having opposite radial edges
30 which reach to an arcuate edge.
13. The split washer according to claim 12, wherein the split follows a winding path through the tab from the inner circumferential edge to the arcuate edge of the tab.
- 35 14. The split washer according to claim 12 or 13, wherein the portion of the circle of the radially outer peripheral edge extends with a constant radius R_o for between about 260° - 300° , and the tab extends circumferentially for between about 60° - 100° .

15. The split washer according to any one of claims 1-14, where in the body is made from a natural or synthetic rubber including a thermoplastic elastomer.
16. A method of installing a washer between a cable gland a junction box or other device to which the cable gland is engaged, the method comprising:
- 5 loosening the cable gland from the junction box or other device to create a gap between a face of the cable gland and the junction box or other device while the cable gland remains engaged with the junction box or other device;
- 10 disengaging ends of the washer to form an opening;
- inserting the washer in a generally radial direction onto the cable gland via the opening;
- engaging the ends of the washer; and
- tightening the cable gland to compress the washer and form a seal between the cable gland and the junction box or other device.
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17. The method according to claim 16, wherein inserting the washer comprises inserting a split washer in accordance with any one of claims 1-15.