

CLAMP SEALS

Clamp seals make fast and secure flange connections in continuously operating equipment. Due to their symmetrical geometry, the clamp connections can be mounted and re-separated very easily. Because their dimensions are standardized according to DIN 32676, clamp seals are available quickly and economically.

Dimensions for conventional clamp seals in accordance with DIN 32676:

- Series A (metric) nominal dimensions from DN6 – DN200
- Series B DN/OD 10.2 – DN/OD 219.1
- Series C (imperial) 0.25" to 6"

Freudenberg Sealing Technologies has developed a portfolio of four materials to meet the special demands of the food and pharmaceutical industries. It covers all the requirements of the processing industry while reducing tooling costs.



VALUES FOR THE CUSTOMER

Freudenberg Sealing Technologies delivers a full range of clamp seals materials to fit most customer applications:

70 EPDM 291

With resistance to water, water-based systems, water vapor, acids and bases, black EPDM is one of the most widespread materials in the food and pharmaceutical industries. EPDM only reaches sealing limits in greases and oils at elevated temperatures.

To evaluate its effectiveness, Freudenberg carried out a benchmark study with materials from two competitors. After one week of storage in common CIP media—acid and base at +80 °C (+176 °F)—EPDM 291 shows only slight changes in its volume and strength. But competing materials exhibit swelling of more than 10% and a loss of strength of more than 20%.

EPDM 291 also retains its mechanical characteristics after a week of storage in SIP media (peroxide cleaner and water vapor) at +60 °C (+140 °F). Other materials in the comparison show a loss in strength of more than 70%. Proven superior in this test, EPDM 291 is also suited to dynamic applications.

70 EPDM 253815

The mineral-filled white EPDM exhibits nearly the same excellent sealing characteristics as the black (carbon-black-filled) EPDM and is thus the ideal solution for the hygienically demanding pharmaceutical industry. Furthermore, Freudenberg's white EPDM is distinguished by its extraordinary lifespan.

75 Fluoroprene® XP 41

The blue Fluoroprene XP combines the advantages of EPDM with those of FKM and is the universal material for the processing industry due to its outstanding stability. Its versatility makes it the only material that permits a "one-compound-per-plant" strategy.

70 VMQ 117055

Silicone rubber is particularly suited to thermally demanding applications with less aggressive media. VMQ 117055 stands out from other materials for its transparency, demonstrating especially high purity.



FEATURES AND BENEFITS

Clamp seals materials and approvals

Material	Color	Approvals
70 EPDM 291	black	FDA 21 CFR 177.2600 EU Reg. 1935/2004 3-A [®] Sanitary Standards Class II USP Class VI (+121 °C/250 °F) ADI free
70 EPDM 253815	white	FDA 21 CFR 177.2600 EU Reg. 1935/2004 3-A [®] Sanitary Standards Class II USP Class (+121 °C/250 °F) ADI free
75 Fluoroprene[®] XP 41	blue	FDA 21 CFR 177.2600 EU Reg. 1935/2004 3-A [®] Sanitary Standards Class I USP Class VI (+121 °C/250 °F) ADI free
70 VMQ 117055	transparent	FDA 21 CFR 177.2600 EU Reg 1935/2004 3-A [®] Sanitary Standards Class I USP Class VI (+121 °C/250 °F) ADI free

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