

ELVAX™ EVA copolymer resins grade selection guide



ELVAX™ resins

ELVAX™ ethylene vinyl acetate copolymer resins add toughness and flexibility to industrial, consumer, and packaging applications.

Industrial & consumer applications

Advantages of ELVAX™ in industrial and consumer applications include inherent toughness, resilience, better flexibility than low density polyethylene over a broad temperature range, and excellent environmental stress crack resistance. Clarity varies from translucent to transparent.

With no plasticizer to migrate and low odor, these resins offer advantages for use in many applications now served by plasticized polyvinyl chloride and compounded rubbers. Typical applications include flexible hose and tubing, automobile bumper systems, footwear components, wire and cable compounding, molded automotive parts, toys and athletic goods.

These resins can be processed by injection molding and other conventional thermoplastic methods including structural foam molding, sheet and shape extrusion, blow molding and wire coating. Conventional rubber processing techniques such as Banbury, two-roll milling and compression molding may also be used.

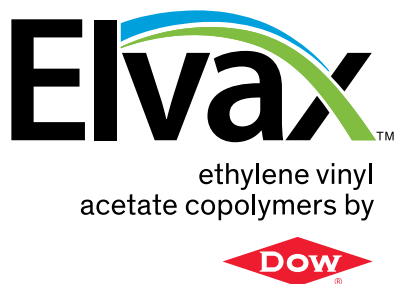


Table 1: ELVAX™ grades for Industrial & Consumer applications

Grades are listed by vinyl acetate content and are available globally unless indicated otherwise.

| Grade | Vinyl acetate content, wt % | Melt index dg/min | Density, g/cc | DSC melt point, °C | Vicat softening point, °C | Anti-oxidant type |
|--------------------------------------|-----------------------------|-------------------|---------------|--------------------|---------------------------|-------------------|
| | ASTM E168 | ASTM D1238 | ASTM D792 | ASTM D3418 | ASTM D1525 | |
| 750 | 9 | 7 | 0.930 | 98 | 75 | BHT |
| 760 | 9.3 | 2 | 0.930 | 100 | 82 | BHT |
| 760Q | 9.3 | 2 | 0.930 | 100 | 82 | BHT (high) |
| 770 | 9.5 | 0.8 | 0.930 | 96 | 80 | BHT |
| 670 | 12 | 0.35 | 0.933 | 95 | 79 | BHT |
| 660 | 12 | 2.5 | 0.933 | 96 | 74 | BHT |
| 650Q | 12 | 8 | 0.933 | 95 | 65 | BHT |
| 560 | 15 | 2.5 | 0.935 | 92 | 71 | BHT |
| 550 | 15 | 8 | 0.935 | 85 | 62 | BHT |
| 470 | 18 | 0.7 | 0.941 | 89 | 68 | BHT |
| 460 | 18 | 2.5 | 0.941 | 88 | 64 | BHT |
| 450 | 18 | 8 | 0.941 | 86 | 61 | BHT |
| 440 | 18 | 30 | 0.927 | 84 | 53 | BHT |
| 420 | 18 | 150 | 0.937 | 73 | 53 | BHT |
| 410 | 18 | 500 | 0.934 | 73 | 53 | BHT |
| 360 | 25 | 2 | 0.948 | 78 | 53 | BHT |
| 350 | 25 | 19 | 0.948 | 74 | 46 | BHT |
| 265 | 28 | 3 | 0.951 | 73 | 49 | BHT |
| 260 | 28 | 6 | 0.955 | 75 | 46 | BHT |
| 250 | 28 | 25 | 0.950 | 70 | 42 | BHT |
| 240W | 28 | 43 | 0.951 | 74 | 40 | BHT |
| 220W | 28 | 150 | 0.951 | 70 | -- | BHT |
| 210W | 28 | 400 | 0.951 | 60 | 39 | BHT |
| 150 | 32 | 43 | 0.957 | 63 | 36 | BHT |
| 150W | 32 | 43 | 0.957 | 63 | 36 | BHT |
| 40L-03 | 40 | 3 | 0.967 | 58 | 26 | BHT |
| 40W | 40 | 52 | 0.965 | 47 | 27 | BHT |
| Terpolymer (1% MAA) | | | | | | |
| 4355 | 25 | 6 | 0.952 | 76 | -- | BHT |
| 4320 | 25 | 150 | 0.947 | 70 | -- | BHT |
| 4310 | 25 | 500 | 0.945 | 66 | -- | BHT |
| 4260 | 28 | 6 | 0.955 | 72 | -- | BHT |
| ELVAX™ grades available in EMEA only | | | | | | |
| 760A | 9.3 | 2 | 0.930 | 98 | 75 | BHT |
| 660A | 12 | 2.5 | 0.930 | 95 | 71 | BHT |
| 560A | 15 | 2.5 | 0.940 | 91 | 66 | BHT |
| 550A | 15 | 8 | 0.935 | 90 | 62 | BHT |
| 470A | 18 | 0.7 | 0.940 | 89 | 66 | BHT |
| 460A | 18 | 2.5 | 0.940 | 87 | 59 | BHT |
| 450A | 18 | 8 | 0.941 | 86 | 61 | BHT |
| 420A | 18 | 150 | 0.937 | 82 | -- | BHT |
| 360A | 25 | 2 | 0.950 | 80 | 49 | BHT |
| 265A | 28 | 3 | 0.950 | 75 | 49 | BHT |
| 260A | 28 | 6 | 0.950 | 74 | 43 | BHT |
| 250A | 28 | 25 | 0.950 | 70 | 42 | BHT |
| 240A | 28 | 43 | 0.951 | 74 | 40 | BHT |

BHT = Butylated Hydroxytoluene

Packaging applications

ELVAX™ performance properties for packaging include low seal initiation temperatures for fast packaging speeds, low shrink temperature, great clarity, enhanced flexibility, increased impact strength, improved puncture resistance, and excellent flex-crack resistance. ELVAX™ provides excellent adhesion to other polymers and is commonly used as a tie layer in coextrusions with dissimilar surfaces.

Typical packaging applications include cheese packaging, cereal and cracker box liners, fresh meat barrier packaging, caps and closures, and medical packaging. ELVAX™ resins can be made into blown or cast monolayer and coextruded films, extrusion coated onto various substrates, or blended with other resins. Some grades can be used for molded or extruded liner seals inside plastic and metal bottle caps.

Table 2: ELVAX™ grades for Packaging applications

Grades are listed by vinyl acetate content and are available globally unless indicated otherwise.

| Grade | Vinyl acetate content, wt% | Melt index, dg/min | Density, g/cc | DSC melt point, °C | Vicat softening point, °C | Anti-oxidant type | Additives | |
|--------------------------------------|----------------------------|--------------------|---------------|--------------------|---------------------------|-------------------|-----------|-----------|
| | | | | | | | Slip | Antiblock |
| | ASTM E168 | ASTM D1238 | ASTM D792 | ASTM D3418 | ASTM D1525 | | | |
| 3120 | 7.5 | 1.2 | 0.93 | 99 | 84 | BHT | Y | Y |
| 3124 | 9 | 7 | 0.93 | 98 | 77 | BHT | | |
| 3128-1 | 9.3 | 2 | 0.93 | 99 | 77 | BHT | | |
| 3129-1 | 10 | 0.35 | 0.93 | 100 | 87 | BHT | | |
| 3135SB | 12 | 0.35 | 0.93 | 97 | 81 | BHT | Y | Y |
| 3135X | 12 | 0.35 | 0.93 | 95 | 82 | BHT | | |
| 3135XZ | 12 | 0.35 | 0.93 | 95 | 82 | non-BHT | | |
| 3130 | 12 | 2.5 | 0.93 | 95 | 76 | BHT | | |
| 3150 | 15 | 2.5 | 0.94 | 92 | 69 | BHT | | |
| 3155 | 15.5 | 25 | 0.94 | 87 | 55 | BHT | | |
| 3165 | 18 | 0.7 | 0.94 | 89 | 69 | BHT | | |
| 3165LG | 18 | 0.7 | 0.94 | 89 | 69 | BHT | | |
| 3165SB | 18 | 0.7 | 0.94 | 88 | 67 | BHT | Y | Y |
| 3169Z | 18 | 1.5 | 0.95 | 89 | 68 | non-BHT | Y | Y |
| 3170 | 18 | 2.5 | 0.94 | 87 | 65 | BHT | | |
| 3170SHB | 18 | 2.5 | 0.94 | 87 | 65 | BHT | Y | Y |
| 3172Z | 18 | 2.5 | 0.94 | 88 | 67 | non-BHT | Y | Y |
| 3174 | 18 | 8 | 0.94 | 86 | 61 | BHT | | |
| 3174SHB | 18 | 8 | 0.94 | 87 | 61 | BHT | Y | Y |
| 3176 | 18 | 30 | 0.94 | 84 | 54 | BHT | Y | |
| 3176BFZ | 18 | 30 | 0.94 | 84 | 54 | non-BHT | | |
| 3176SB | 18 | 30 | 0.94 | 84 | 54 | BHT | Y | Y |
| 3178Z | 20 | 20 | 0.94 | 81 | 50 | non-BHT | | |
| 3200-2 | 22.5 | 32 | 0.94 | 71 | 55 | BHT | | |
| 3190 | 25 | 2 | 0.95 | 77 | 52 | BHT | | |
| 3182 | 28 | 3 | 0.95 | 73 | 49 | BHT | | |
| 3182-2 | 28 | 3 | 0.95 | 72 | 49 | non-BHT | | |
| 3175 | 28 | 6 | 0.95 | 73 | 47 | BHT | | |
| 3180 | 28 | 25 | 0.95 | 70 | 43 | BHT | | |
| 3180Z | 28 | 25 | 0.95 | 70 | 43 | non-BHT | | |
| 3185 | 32 | 43 | 0.96 | 61 | 40 | BHT | | |
| CE9619-1 | 13.1 | 3.8 | 1.06 | 87 | -- | BHT | 7% | 20% |
| ELVAX™ grades available in EMEA only | | | | | | | | |
| 3150A | 15 | 2.5 | 0.94 | 91 | 66 | BHT | | |
| 3165A | 18 | 0.7 | 0.94 | 89 | 66 | BHT | | |
| 3165VLGA | 18 | 0.7 | 0.94 | 89 | 69 | BHT | | |
| 3170A | 18 | 2.5 | 0.94 | 87 | 59 | BHT | | |
| 3190A | 25 | 2 | 0.95 | 80 | 49 | BHT | | |
| 3175LGA | 28 | 6 | 0.95 | 74 | 43 | BHT | | |
| 3182A | 28 | 3 | 0.95 | 75 | 46 | BHT | | |

BHT = Butylated Hydroxytoluene

LG = Low gel

VLG = Very low gel

Z = non-BHT

CE = Concentrate

Find out more

For additional information about specific ELVAX™ grades, check out the ELVAX™ product data sheets on our website or contact a Dow representative.



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