High-performance Thermoplastic Elastomer

NOF®-ALLOY TZ series

1 About NOF®-ALLOY TZ Series

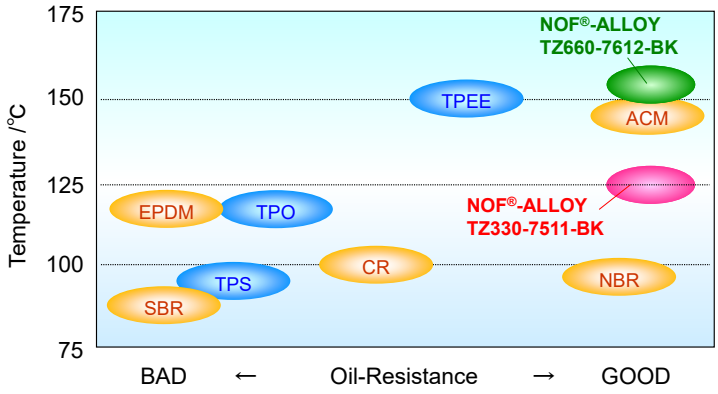
NOF®-ALLOY TZ Series has some excellent properties, especially oil-resistance and high heat-resistance.

NOF®-ALLOY TZ Series is a high-performance thermoplastic elastomer which consists of acrylic rubber and polyolefin (or polyester).

2 Features of NOF®-ALLOY TZ Series

① Excellent oil and heat resistance

NOF®-ALLOY TZ Series shows both excellent oil-resistance and high heat-resistance properties in comparison to other materials.



TPO : Thermoplastic olefin elastomer
TPS : Thermoplastic styrene elastomer
TPEE : Thermoplastic polyester elastomer
EPDM : Ethylene-propylene-diene rubber
SBR : Styrene-butadiene rubber
CR : Chloroprene rubber
NBR : Acrylonitrile-butadiene rubber
ACM : Acrylic rubber

Fig.1 Comparison of Oil-resistance and Heat-resistance

② Excellent adhesion property

NOF®-ALLOY TZ Series has an excellent adhesive property for other resins.

Table 1 Adhesion for resins

Resin	NOF®-ALLOY TZ330-7511-BK	NOF®-ALLOY TZ660-7612-BK
PP	Adhesive	No Adhesive
ABS	No Adhesive	Adhesive
PC	No Adhesive	Adhesive
PC/ABS	No Adhesive	Adhesive
PBT	No Adhesive	Adhesive

(Evaluation method)

1. The other resin plate is set into a cavity of the mold.
2. NOF®-ALLOY is molded toward the plate by injection method.
3. The adhesion property of the interface between NOF®-ALLOY TZ and other resins is checked by peeling.

3 Application of NOF®-ALLOY TZ Series

NOF®-ALLOY TZ Series has an excellent adhesive property for other resins. Due to this property, **NOF®-ALLOY TZ Series** can be molded with other resins by double molding method.

NOF®-ALLOY TZ Series is molded by some common methods (extrusion, injection, blow etc.), and used for Air ducts, Covers and Seals of automotive application. Especially **NOF®-ALLOY TZ Series** is a suitable material for packing, and gaskets of automotive and industrial application because of the excellent elasticity.

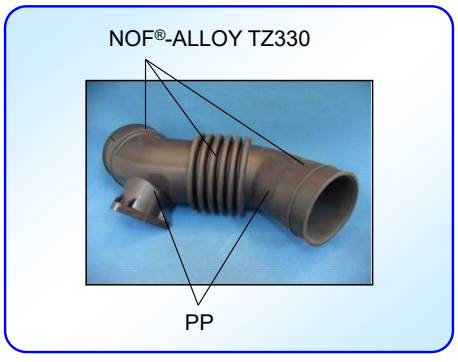


Fig.2 Double molding

Fig.3 Application of NOF®-ALLOY TZ Series

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4 Physical properties of NOF®-ALLOY TZ Series

The physical properties of **NOF®-ALLOY TZ Series** are shown in Table 2.

Table 2 The physical properties of NOF®-ALLOY TZ Series

Item		Test method	Unit	Normal grade	High heat-resistance grade
				NOF®-ALLOY TZ330-7511-BK	**NOF®-ALLOY TZ660-7612-BK**
Physical properties	Density	ASTM D 792	—	1.00	1.13
	Melt flow rate[1)]	ASTM D 1238	g/10min	8	3
	Hardness[2)]	ASTM D 2240	—	A75	A79
Mechanical properties	Strength at break[3)]	ASTM D 412	MPa	4	7
	Elongation at break[3)]		%	200	200
	100% Modulus[3)]		MPa	3	5
Thermal property	Brittleness temperature	ASTM D 746	℃	-45	-47
Property like rubber	Compression set[4)]	ASTM D 395	%	50	49
Oil resistance	Ratio of weight change[5)]	ASTM D 471	%	15	3
Melting point			℃	155	225
Available temperature range			℃	-40～120	-40～150

1) TZ330；190℃×5kg、TZ660；260℃×10kg、2) 15 seconds later、3) Number 3 dumbbell shaped specimen, elongation rate; 500mm/min

4) TZ330; 120℃×24h, 25% compression、 TZ660; 150℃×24h, 25% compression 5) IRM903 oil（TZ330；120℃×72h、TZ660；150℃×72h）

＊The values in the table are typical values and not verified values.

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