

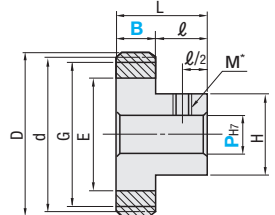
# Bonded Plastic Spur Gears

Pressure Angle 20°, Module 1.0, 1.5, 2.0, 2.5, 3.0

■ **Features:** Plastic gears with metal cores and MC nylon teeth are fusion bonded. Best suited when strong mounting to shafts is desired.

Type			Material		Accessory
Straight Bore	Straight Bore + Tap	Keyway + Tap	Teeth	Core	
GEYH	GEYT	GEYK	MC Nylon	S25C	Set Screw (SCM435, Black Oxide)

**Gear Shape: Shape B**



**Shaft Bore Specifications (Selectable Gear Shapes)**

Shaft Bore (Shape B)	Straight Bore + Tap (Shape B)	Keyway + Tap (Shape B)

Keyway Dimension Details **P.1498**  
Positioning of keyway and teeth is not fixed.

■ **Tapped Hole Dimension List**

Shaft Bore Dia. P.H7	M (Coarse)	Accessory Set Screw
8-12	M4	M4x3
13-17	M5	M5x4
18-30	M6	M6x5

Accuracy Previous JIS B 1702 Class 5 (New JIS B 1702-1 Class 9 Equivalent)

\*Straight Bore Type has neither tapped holes nor set screws.  
\*MC nylon may change dimensions due to its water-absorbing property.

## Module 2.5, 3.0

Part Number	Type	Module	Number of Teeth	B	Gear Shape	Shaft Bore Dia. P.H7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	E	L	l	*1. Allowable Transmission Force (N·m) Bending Strength	Unit Price 1 ~ 4 pc(s).			
						Straight Bore	Keyway + Tap									Straight Bore	Straight Bore + Tap	Keyway + Tap	
Straight Bore <b>GEYH</b>	2.5	18	25	25	B	12-17	12N-15N	45	50	38.75	25	30	40	15	8.28				
						12-19	12N-17N	50	55	43.75	28	9.59							
						12-24	12N-21N	55	60	48.75	35	10.84							
						12-26	12N-23N	60	65	53.75	40	12.10							
						12-28	12N-24N	62.5	67.5	56.25	45	12.78							
Straight Bore + Tap <b>GEYT</b>	2.5	26	25	25	B	12-28	12N-24N	65	70	58.75	40	45	40	15	13.47				
						12-30	12N-26N	70	75	63.75	45	14.73							
						12-16	12N-14N	48	54	40.5	24	30				12.25			
						12-21	12N-18N	54	60	46.5	30	40				14.31			
						12-23	12N-20N	60	66	52.5	33	45				16.56			
Keyway + Tap <b>GEYK</b>	3.0	18	30	30	B	12-26	12N-23N	66	72	58.5	38	45	47	17	18.72				
						12-28	12N-24N	72	78	64.5	43	20.90							
						12-16	12N-14N	48	54	40.5	24	30				12.25			
						12-21	12N-18N	54	60	46.5	30	40				14.31			
						12-23	12N-20N	60	66	52.5	33	45				16.56			

\*1 Allowable Transmission Forces in the table are reference values calculated with prescribed conditions. For conditions, see **P. 1498**. \* For orders larger than indicated quantity, please request a quotation.

**Ordering Example**

Part Number - Number of Teeth - B - Gear Shape - P

GEYT1.5 - 40 - 15 - B - 18

GEYK2.0 - 30 - 20 - B - 15N

**Alterations**

Part Number - Number of Teeth - B - Gear Shape - P - (KC90, KC120, BS)

GEYK3.0 - 20 - 30 - B - 20N - BS12.5

Alterations Code	Set Screw		Hub Cut
	KC90	KC120	BS
Spec.	Adds another set screw at 90° position. *Not applicable to Straight Bore Type.	Adds another set screw at 120° position. *Not applicable to Straight Bore Type.	Cuts the hub length in 0.5mm increments. *Straight Bore Type: 0 ≤ BS ≤ l *Straight Bore + Tap Type: M+3 ≤ BS ≤ l *Keyway + Tap Type: M+3 ≤ BS ≤ l

## Bonding Strength and Safety Factor

- The fusion bonding strength of MC nylon and cores varies depending on bonded areas. See Fig. 1 for the relations between bonded diameter and radial strength (torque), and Fig. 2 for bonded diameter and thrust strength.
- For the bonded strength obtained in ①, apply 4 ~ 5 as safety factor. If ambient temperature rises, multiply it by the modification coefficient in Fig. 3.
- Allowable strength is as follows:

$$T_{al} = T_{max} \times 1 / \text{Safety Factor} \times T$$

T<sub>al</sub>: Allowable Fusion Bonded Strength  
T<sub>max</sub>: Fusion Bonded Strength in Fig. 1 or 2

Fig. 1 Relation of Fusion Bonded Dia. (E Dimension) and Radial Strength

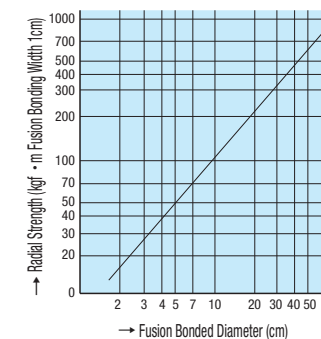


Fig. 2 Relation of Fusion Bonded Dia. (E Dimension) and Thrust Strength

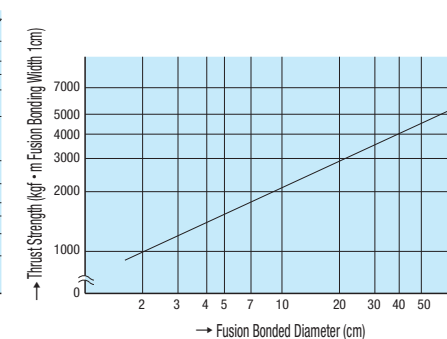
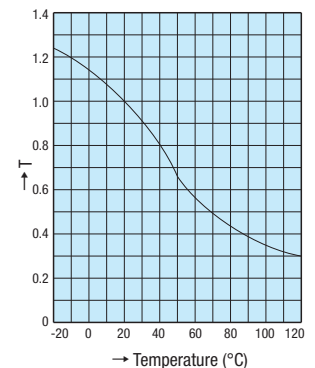


Fig. 3 Modification Coefficient T of Ambient Temperature



Part Number	Type	Module	Number of Teeth	B	Gear Shape	Shaft Bore Dia. P.H7 (1mm Increment)		d Reference Dia.	D Tip Dia.	G Root Dia.	H	E	L	l	*1. Allowable Transmission Force (N·m) Bending Strength	Unit Price 1 ~ 4 pc(s).										
						Straight Bore	Keyway + Tap									Straight Bore	Straight Bore + Tap	Keyway + Tap								
Straight Bore <b>GEYH</b>	1.0	10	30	10	B	8-12	8N-10N	30	32	27.5	18	20	20	10	10	1.03										
			32					34	29.5	1.11																
			34					36	31.5	1.20																
			35					37	32.5	1.25																
			36					38	33.5	1.30																
			38			8-16	8N-13N	38	40	35.5	1.39															
			40					42	37.5	1.48																
			42			10-16	10N-13N	42	44	39.5	1.57															
			45					47	42.5	1.71																
			48					50	45.5	1.86																
			50			10-19	10N-17N	50	52	47.5	1.96															
			52					54	49.5	2.05																
			56			10-26	10N-23N	56	58	53.5	2.24															
			60					62	57.5	2.44																
			70					72	67.5	2.88																
75	77	72.5	3.11																							
Straight Bore + Tap <b>GEYT</b>	1.5	15	28	15	B	10-16	10N-13N	42	45	38.25	23	25	27	12	12	3.18										
			30					48	41.25	3.46																
			32					48	44.25	3.76																
			34					51	47.25	4.06																
			35					52.5	55.5	48.75						4.22										
			36			10-23	10N-20N	54	57	50.25	4.38															
			40					60	63	56.25	5.00															
			42			10-26	10N-23N	63	66	59.25	5.31															
			45					67.5	70.5	63.75	5.78															
			48					72	75	68.25	6.27															
			50			75	78	71.25	6.60																	
			Keyway + Tap <b>GEYK</b>			2.0	20	20	20	B	10-15	10N-13N				40	44	35	22	25	34	14	14	4.91		
								22								48	39	5.55								
								24								48	43	6.19								
								25			10-19	10N-17N				50	54	45	6.54							
28	56	60		51	7.54																					
30	10-24	10N-21N		60	64			55			8.20															
32				64	68			59			8.91															
34				68	72			63			9.63															
35	12-28	12N-24N		70	74			65			9.99															
36				72	76			67			10.38															

\* Shaft bore diameter 9N is not available for Keyway Bore + Tap.  
\* Specify 10K as P dimension if keyway width of 4.0mm (height 1.8mm) for Keyway + Tap with shaft bore diameter of 10 is desired. **P.1498**  
\*1 Allowable Transmission Forces in the table are reference values calculated with prescribed conditions. For conditions, see **P. 1498**.  
\* For orders larger than indicated quantity, please request a quotation.