8-FOLIATION

8—FOLIATION					
REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*	
	8.1 – Generic fo	oliation (origin not know	n or not specified)		
8.1.1	Horizontal generic (origin not known or not specified) foliation	•	all lineweights .2 mm circle diameter 1.5 mm 2.5 mm	For symbols representing a single observation at one locality, point of	
8.1.2	Inclined generic (origin not known or not specified) foliation—Showing strike and dip	_55	1.0 mm $\frac{1}{\sqrt{55}}$ HI-6 $\sqrt{55}$ All lineweights mm .2 mm	observation is the mid- point of the strike line. For multiple observa-	
8.1.3	Vertical generic (origin not known or not specified) foliation—Showing strike	-	2.0 mm + +	tions at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamen-	
8.1.4	Inclined (dip direction to right) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip	A ⁵⁵	5.5 \(\tau \) HI-6 mm \(\frac{1}{90} \) 1.0 mm \(\frac{1}{90} \)	tation); the junction point is at point of ob- servation. To obey the	
8.1.5	Inclined (dip direction to left) generic (origin not known or not specified) foliation, for multiple observations at one locality—Showing strike and dip	, 55 , 55	, 55 , 55	right-hand rule, use the "dip direction to right" symbols (use "dip direc- tion to left" symbols only	
8.1.6	Vertical generic (origin not known or not specified) foliation or foliation, for multiple observations at one locality—Showing strike	A	2.0 mm 1 ₅	when necessary to prevent overcrowding).	
	8.2—Primar	y foliation or layering (in	igneous rocks)	•	
8.2.1	Massive igneous rock	×	dot diameter .35 mm 2.0 mm $\frac{\psi}{\hbar}$:: $\frac{1}{90^{\circ}}$	May be used at locality where foliation and lineation are absent.	
8.2.2	Horizontal flow banding, lamination, or foliation in igneous rock	(all lineweights .60°, .2 mm	For symbols represent- ing a single observation at one locality, point of	
8.2.3	Inclined flow banding, lamination, or foliation in igneous rock—Showing strike and dip	10 _A	1.0 mm $\frac{10}{10}$ HI-6 $\frac{10}{10}$ All lineweights $\frac{10}{10}$ All $\frac{1}{10}$ $\frac{1}{1$	observation is the mid- point of the strike line. For multiple observa-	
8.2.4	Vertical flow banding, lamination, or foliation in igneous rock—Showing strike	- ↓	2.0 mm ±/↑ − ♦	tions at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamen-	
8.2.5	Inclined (dip direction to right) flow banding, lamination, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip	✓ ¹⁰	5.5 ¥ 10 ∠ HI-6	tation); the junction point is at point of ob- servation. To obey the	
8.2.6	Inclined (dip direction to left) flow banding, lamination, or foliation in igneous rock, for multiple observations at one locality—Showing strike and dip	→ ¹⁰	_D ¹⁰	right-hand rule, use the "dip direction to right" symbols (use "dip direc- tion to left" symbols only	
8.2.7	Vertical flow banding, lamination, or foliation in igneous rock, for multiple observations at one locality—Showing strike	<u></u>	2.0 mm 1	when necessary to prevent overcrowding).	
8.2.8	Inclined crinkled or deformed flow banding, lamination, or foliation in igneous rock—Showing approximate strike and dip	20 ~Å~	$\begin{array}{c c} & & & & & & & & & & & \\ & & & & & & & $		
8.2.9	Vertical or near-vertical crinkled or deformed flow banding, lamination, or foliation in igneous rock—Showing approximate strike	~	2.0 mm ½ ~↓~		
8.2.10	Horizontal cumulate foliation	\oplus	all lineweights .2 mm $ \bigoplus \frac{\psi}{\hbar}.5 mm \\ 2.5 mm $ 2.5 mm	Inclined (upright) and overturned cumulate fo- liation symbols are used	
8.2.11	Inclined cumulate foliation—Showing strike and dip	<u>45</u>	all lineweights .2 mm $1.0 \pm 45 = 45$ ± 1.5 ± 1.5 ± 1.5	when the top direction of layers is known to a reasonable degree of certainty.	
8.2.12	Vertical cumulate foliation—Showing strike	+	2.5 mm \frac{\psi}{\hbar{\hbar}} = \frac{1}{1}	Symbols that have a ball may be used to indicate a greater level of	
8.2.13	Overturned cumulate foliation—Showing strike and dip	70 -J=	1.0 ½ 70 ← HI-6 mm 末 =	certainty in the determination of top direction.	
8.2.14	Inclined cumulate foliation, where top direction of layers is known from local features—Showing strike and dip	30	all lineweights $30 \stackrel{\frown}{\leftarrow} H-6$ $2 mm \stackrel{\frown}{\rightarrow} \frac{1}{10} \stackrel{\frown}{\rightarrow} \frac{10}{10} \stackrel{\frown}{\leftarrow} mm$ $30 \stackrel{\frown}{\leftarrow} H-6$ $30 \stackrel{\frown}{\rightarrow} H-6$ $30 $	mination of top direction is "known" at some pla- ces and "unknown" at	
8.2.15	Vertical cumulate foliation, where top direction of layers is known from local features—Showing strike. Ball shows top direction	<u></u>	2.5 mm + + + + + + + + + + + + + + + + + +	others, symbols that have a ball also may be used to indicate where top direction is "known".	
8.2.16	Overturned cumulate foliation, where top direction of layers is known from local features—Showing strike and dip	<u>80</u> <u>→</u>	1.0 ± 80 ← HI-6 mm ⊼ • .625 mm radius		

*For more information, see general guidelines on pages A-i to A-v.

8-FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*	
	8.2—Primary foliation or layering (in igneous rocks) (continued)				
8.2.17	Inclined crinkled or deformed cumulate foliation— Showing approximate strike and dip	25 ————	1.0 mm $\frac{1}{4}$ 25 HI-6 .35 mm all lineweights .2 mm $\frac{1}{4}$.75 mm radius	For symbols represent- ing a single observation at one locality, point of	
8.2.18	Vertical or near-vertical crinkled or deformed cumulate foliation—Showing approximate strike	₩	2.375 mm 🕌	observation is the mid- point of the strike line. For multiple observa- tions at one locality, join	
8.2.19	Horizontal eutaxitic foliation	⊖	.75 mm ↓ 110° all lineweights .2 mm circle diameter 2.5 mm	symbols at the "tail" ends of the strike lines (opposite the ornamen-	
8.2.20	Inclined eutaxitic foliation—Showing strike and dip	_5	circle diameter 2.5 mm 110° .75 mm 5 HI-6 all lineweights .2 mm	tation); the junction point is at point of ob- servation. To obey the	
8.2.21	Vertical or near-vertical eutaxitic foliation—Showing strike	- →-	$1.5 mm \frac{\psi}{\Lambda}$	right-hand rule, use the "dip direction to right" symbols (use "dip direc-	
8.2.22	Inclined (dip direction to right) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip	A 5	5.5 \(\) HI-6	tion to left" symbols only when necessary to pre- vent overcrowding).	
8.2.23	Inclined (dip direction to left) eutaxitic foliation, for multiple observations at one locality—Showing strike and dip	P ⁵	P ⁵		
8.2.24	Vertical or near-vertical eutaxitic foliation, for multiple observations at one locality—Showing strike	Þ	1.5 mm -{		
8.2.25	Inclined crinkled or deformed eutaxitic foliation— Showing approximate strike and dip	15 ☆	all lineweights \uparrow 35 mm \uparrow 3.75 mm \uparrow 3.75 mm \uparrow 3.75 mm \uparrow 3.75 mm radius		
8.2.26	Vertical or near-vertical crinkled or deformed eutaxitic foliation—Showing approximate strike	➾	$1.5 mm \frac{\psi}{\Lambda} $		

^{*}For more information, see general guidelines on pages A-i to A-v.

8—FOLIATION (continued)

REF NO		SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*	
REFINO				NOTES ON USAGE	
8.3—Secondary foliation (caused by metamorphism or tectonism) 60° For symbols represent-					
8.3.1	Horizontal metamorphic or tectonic foliation	•	circle diameter 2.5 mm lineweight .2 mm	ing a single observation at one locality, point of	
8.3.2	Inclined metamorphic or tectonic foliation— Showing strike and dip	35	1.0 mm \(\frac{\sqrt{60^\gamma}}{35} \sqrt{HI-6} \\ \sqrt{1000000000000000000000000000000000000	observation is the mid- point of the strike line. For multiple observa- tions at one locality, join	
8.3.3	Vertical metamorphic or tectonic foliation—Showing strike	-	2.0 mm	symbols at the "tail" ends of the strike lines (opposite the ornamen-	
8.3.4	Inclined (dip direction to right) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip	✓ ³⁵	5.5 × 35 × HI-6	tation); the junction point is at point of ob- servation. To obey the	
8.3.5	Inclined (dip direction to left) metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike and dip	→ ³⁵	<i>→</i> ³⁵	right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only	
8.3.6	Vertical metamorphic or tectonic foliation, for multiple observations at one locality—Showing strike	<i>></i>	2.0 mm *	when necessary to prevent overcrowding).	
8.3.7	Horizontal metamorphic or tectonic foliation parallel to bedding	•	circle diameter	Inclined (upright) and overturned foliation symbols are used when	
8.3.8	Inclined metamorphic or tectonic foliation parallel to bedding—Showing strike and dip		1.0 mm \searrow 1.0 \swarrow 1.0 mm \searrow 1.0 \swarrow 1.0 mm \searrow 2.0 \swarrow 1.0 mm \swarrow 2.2 mm	the top direction of bed- ding is known to a rea- sonable degree of cer- tainty.	
8.3.9	Vertical metamorphic or tectonic foliation parallel to bedding—Showing strike	+	$4.0 \text{ mm} \xrightarrow{\frac{1}{\hbar}} - \frac{\frac{1}{4}}{\frac{1}{4}} 2.0 \text{ mm}$	Symbols that have a ball may be used to indicate a greater level of	
8.3.10	Inclined metamorphic or tectonic foliation parallel to overturned bedding—Showing strike and dip	-75	75 ∠HI-6 .625 mm radius	certainty in the determi- nation of top direction. On maps where deter-	
8.3.11	Inclined metamorphic or tectonic foliation parallel to upright bedding, where top direction of beds is known from local features—Showing strike and dip	15	1.0 mm $^{\frac{1}{4}}$ $^{\frac{1}{4}}$ $^{\frac{1}{4}}$ $^{\frac{1}{6}}$ $^{\frac{1}{6}}$ dot diameter 7.5 mm $^{\frac{1}{4}}$ $^{\frac{1}{4}}$ $^{\frac{1}{6}}$ All lineweights 2 mm	mination of top direction is "known" at some pla- ces and "unknown" at	
8.3.12	Vertical metamorphic or tectonic foliation parallel to bedding, where top direction of beds is known from local features—Showing strike. Ball shows top direction	-	$4.0 \frac{1}{100} - \frac{1}{100} - \frac{1}{100} = 2.0 \text{mm}$	others, symbols that have a ball also may be used to indicate where top direction is "known".	
8.3.13	Inclined metamorphic or tectonic foliation parallel to overturned bedding, where top direction of beds is known from local features—Showing strike and dip	. \$5	85 ← HI-6 • ★ .625 mm radius	top direction is "known".	
8.3.14	Inclined crinkled or deformed metamorphic or tectonic foliation—Showing approximate strike and dip	30	1.0 mm \(\frac{\psi}{\psi} \) 1.0 mm \(\frac{\psi}{\psi} \) 30 \(\frac{\psi}{\psi} .375 mm \) 1.0 mm \(\frac{\psi}{\psi} .75 mm \) 2 mm \(\frac{\psi}{\psi} .75 mm \) 7.75 mm radius		
8.3.15	Vertical or near-vertical crinkled or deformed meta- morphic or tectonic foliation—Showing approxi- mate strike	~	2.0 mm ½ →		
8.3.16	Horizontal continuous, penetrative foliation	н	1.0 mm all lineweights circle diameter 2.5 mm	For symbols represent- ing a single observation at one locality, point of	
8.3.17	Inclined continuous, penetrative foliation—Showing strike and dip	25 H -▲- H	1.0 mm 1.0 mm 1.2 mm 2.2 mm	observation is the mid- point of the strike line. For multiple observa-	
8.3.18	Vertical continuous, penetrative foliation—Showing strike	н 🔷 н	2.0 mm ½ н ♦ н	tions at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamen-	
8.3.19	Inclined (dip direction to right) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip	✓* ²⁵	5.5 ¥ 25 ← HI-6 1.0 mm = 5 mm 1.0 mm = 160°	tation); the junction point is at point of ob- servation. To obey the	
8.3.20	Inclined (dip direction to left) continuous, penetrative foliation, for multiple observations at one locality—Showing strike and dip	× ²⁵	→ ²⁵	right-hand rule, use the "dip direction to right" symbols (use "dip direction to left" symbols only	
8.3.21	Vertical continuous, penetrative foliation, for multiple observations at one locality—Showing strike	*	2.0 mm _K	when necessary to prevent overcrowding).	

*For more information, see general guidelines on pages A-i to A-v.

8-FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
	8.3—Secondary foliation	(caused by metamorphi	sm or tectonism) (continued)	
8.3.22	Horizontal disjunctive, spaced foliation	l ∰ı	circle diameter 2.5 mm all lineweights .2 mm	For symbols representing a single observation at one locality, point of observation is the midpoint of the strike line. For multiple observations at one locality, join symbols at the "tail" ends of the strike lines (opposite the ornamentation); the junction point is at point of observation. To obey the
8.3.23	Inclined disjunctive, spaced foliation—Showing strike and dip	30 H ≜ H	all lineweights 3.6 mm HI-6 300 1.0 mm 1.0 mm 1.0 mm 1.0 mm	
8.3.24	Vertical disjunctive, spaced foliation—Showing strike	++♦++	2.0 mm	
8.3.25	Inclined (dip direction to right) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip	×30	5.5 ₹ 30 ← HI-6 mm 1.0 mm 1.0 mm	
8.3.26	Inclined (dip direction to left) disjunctive, spaced foliation, for multiple observations at one locality—Showing strike and dip	×30	Jan 30	right-hand rule, use the "dip direction to right" symbols (use "dip direc- tion to left" symbols only
8.3.27	Vertical disjunctive, spaced foliation, for multiple observations at one locality—Showing strike	*	2.0 mm	when necessary to prevent overcrowding).
8.3.28	Horizontal disjunctive, symmetric crenulation foliation	*	circle diameter 60°, all lineweights 2.5 mm .2 mm	
8.3.29	Inclined disjunctive, symmetric crenulation foliation—Showing strike and dip	35 ⊬ ⊶	draft as shown 60° ← HI-6 1.0 mm ★ 3.5 ★ 1.0 mm 5.0 ★ 1.0 mm	
8.3.30	Vertical or near-vertical disjunctive, symmetric crenulation foliation—Showing strike	н офо н	2.0 mm + ++++++++++++++++++++++++++++++++	
8.3.31	Inclined (dip direction to right) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip	35	5.5 \(\square 35 \) HI-6 1.0 mm \(\square \) draft as shown	
8.3.32	Inclined (dip direction to left) disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike and dip	35	35	
8.3.33	Vertical or near-vertical disjunctive, symmetric crenulation foliation, for multiple observations at one locality—Showing strike	×	2.0 mm *	
8.3.34	Horizontal disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation	(5)	circle diameter 60° all lineweights 2.5 mm .2 mm	
8.3.35	Inclined disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike and dip	40 - 9	1.0 mm 1.0 mm 40 1.0 mm 1.0 mm 75.0 mm	
8.3.36	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation—Showing strike	⊢ ∮ Fi	2.0 mm / →	
8.3.37	Inclined (dip direction to right) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip	, G ⁴⁰	5.5 \(\square HI-6 \) 1.0 mm \(\square HI-6 \)	
8.3.38	Inclined (dip direction to left) disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip	× ⁴⁰	×40	
8.3.39	Vertical or near-vertical disjunctive, asymmetric (S-shaped, counterclockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike	×	2.0 mm *	
8.3.40	Horizontal disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation	®	circle diameter 60°, all lineweights 2.5 mm .2 mm draft as shown	
8.3.41	Inclined disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation— Showing strike and dip	45	1.0 mm $\frac{1}{4}$ 1.0 mm $\frac{1}{4}$ 1.0 mm $\frac{1}{4}$ 0raft as shown	
8.3.42	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation—Showing strike	H	2.0 mm 1	
8.3.43	Inclined (dip direction to right) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip	×45	5.5 ¥ 45 ← HI-6 1.0 mm 45 ← draft as shown	
8.3.44	Inclined (dip direction to left) disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike and dip	× ⁴⁵	×45	
8.3.45	Vertical or near-vertical disjunctive, asymmetric (Z-shaped, clockwise sense of shear) crenulation foliation, for multiple observations at one locality—Showing strike	*	2.0 mm/ _*	

8-FOLIATION (continued)

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*		
	8.3—Secondary foliation (caused by metamorphism or tectonism) (continued)					
8.3.46	Horizontal gneissic layering	ŀ ⊕ ŀ	circle diameter 2.5 mm all lineweights 2 mm 4.0 mm	For symbols representing a single observation at one locality, point of		
8.3.47	Inclined gneissic layering—Showing strike and dip	<u>, 50</u>	HI-6 6 607 50 4 1.0 mm 5.0 4 1.0 mm	observation is the mid- point of the strike line. For multiple observa- tions at one locality, join		
8.3.48	Vertical or near-vertical gneissic layering—Showing strike	⊢	2.0 mm →	symbols at the "tail" ends of the strike lines (opposite the ornamen-		
8.3.49	Inclined (dip direction to right) gneissic layering, for multiple observations at one locality—Showing strike and dip	, ⁵⁰	5.5 \(\subseteq 50 \) 1.0 mm 1.0 mm 60°	tation); the junction point is at point of ob- servation. To obey the right-hand rule, use the "dip direction to right" symbols (use "dip direc-		
8.3.50	Inclined (dip direction to left) gneissic layering, for multiple observations at one locality—Showing strike and dip	→ ⁵⁰	≯ ⁵⁰			
8.3.51	Vertical or near-vertical gneissic layering, for multiple observations at one locality—Showing strike	<i>></i>	2.0 mm _K	tion to left" symbols only when necessary to pre- vent overcrowding).		
8.3.52	Horizontal undulatory gneissic layering	r ⊕ ⊣	circle diameter 2.5 mm 1.0 \(\psi \) \(\frac{1}{\pi} \) 375 mm radius 1.0 \(\frac{1}{\pi} \) \(\			
8.3.53	Inclined undulatory gneissic layering—Showing strike and dip	55	$HI-6$ $\begin{array}{c} 60^{\circ}/ - 1.5 \text{ mm radius} \\ 55 \\ \hline 1.0 \text{ mm} & \begin{array}{c} 4 \\ \hline \end{array} & \begin{array}{c} 55 \\ \hline \end{array} & \begin{array}{c} 4 \\ \hline \end{array} & \begin{array}{c} 375 \text{ mm} \\ \hline \end{array} & \begin{array}{c} 1.0 \text{ mm} \\ \hline \end{array} & \begin{array}{c} 50 \\ \hline \end{array} & \begin{array}{c} 375 \text{ mm} \\ \hline \end{array} & \begin{array}{c} 2 \text{ mm} \\ \hline \end{array} & \begin{array}{c} 2 \text{ mm} \end{array}$			
8.3.54	Vertical or near-vertical undulatory gneissic layering —Showing strike	~	2.0 mm			
8.3.55	Horizontal mylonitic foliation	•	circle diameter 2.5 mm 4.1.5 mm all lineweights 2 mm 3.4 1.475 mm			
8.3.56	Inclined mylonitic foliation—Showing strike and dip	60 	HI-6 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
8.3.57	Vertical or near-vertical mylonitic foliation— Showing strike	-\	2.0 mm + ++++++++++++++++++++++++++++++++			
8.3.58	Inclined (dip direction to right) mylonitic foliation, for multiple observations at one locality—Showing strike and dip	→ ⁶⁰	5.5 \(\sigma \) 60 \(< \sigma \) HI-6			
8.3.59	Inclined (dip direction to left) mylonitic foliation, for multiple observations at one locality—Showing strike and dip	№ ⁶⁰	№ 60			
8.3.60	Vertical or near-vertical mylonitic foliation, for multiple observations at one locality—Showing strike	*	2.0 mm _K			

^{*}For more information, see general guidelines on pages A-i to A-v.